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OR

THE SCIENTIFIC VINDICATION

OF

CHRISTIANITY.

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PREFACE TO THE SECOND EDITION.



THE acceptable criticism which this book has found in the widest circles, and the quick sale of the first edition, might seem to relieve me of a preface to the second. Nevertheless, I cannot, and will not, allow the same to go forth without a word of explanation in reference to some kindred phenomena in the province of apologetic literature.

The *Ursprünge und Ziele der Kulturentwicklung* appearing immediately after my *Apologetics* from the otherwise highly meritorious Professor Grau, wherein (in agreement with Renan) the Semites are put down as the people endowed by nature for monotheistic religion, but the Hamites as the general scapegoats of humanity, has not been able to shake me in my historically and biblically established conviction: that human nature with the Semites as with the Japhethites and Hamites—with those, however, only still more deeply—is one corrupted precisely in reference to the knowledge of God, and that you have to draw the line of demarcation, not between Semitism and non-Semitism, but between Divine revelation and natural-human development; rather has it only strengthened my conviction and given occasion for a more rigorous and comprehensive proof.

After Darwinism had found its refutation in the province of the natural-scientific department of literature by Semper, His, and others, but especially by the masterly works of Wigand and Pfaff, the Third Section of the Second Book had to undergo a revision, in as far as that which I wrote in the first edition has been confirmed as well as supplemented by

those investigators. Hence I have been able, on appealing to those works, to shorten as well as complete my detailed proofs. Even in the First Book I have adopted numerous passages of Wigand, which confirm what was said by me already in the first edition.

On the other hand, I have learned from Rud. Schmid's *Darwinischen Theories* nothing but, at the most, how one must not handle apologetics. This author wishes to be Ephialtes and Leonidas in one person. He abandons in the most thoughtless manner to the enemy the outworks, fortress, and citadel, in order to intrench himself in the last tower—behind hair-splitting, subjective-speculative definitions, which, however, are not all bomb-proof; they do not convince adversaries, but are fitted to perplex believers. Of his pedantic instruction, that I should have been said to touch with velvet gloves frivolous and malicious adversaries and blasphemers of Christian truth,—contrary to the example of Christ and of the apostles (Matt. vii. 6, xxiii. 33; Acts xx. 29; Phil. iii. 2; Rev. xxii. 15),—I know not what to make. The late President v. Roth of Munich said: "There are people who have bones, and others who have none; I belong to the former." I also. Concerning the scientific importance of his work Rud. Schmid has indeed been instructed by one of the most able and respectable naturalists (*Beweis des Glaubens*, 1877, Feb. p. 102 ff.). He who is in the position to hold Darwinism as a generic concept, and the Theory of Descent as a species of this genus, should nevertheless well reflect whether he has the vocation of literally expressing his opinion on the subject. And he who (as Schmid, p. 304) holds the question as "unimportant," "whether the connection of man (who is dust of the earth) with the earth is mediated or not through the form of an animal organism that had preceded him," and concurs in the opinion of Darwin, that he "would rather be descended from a heroic ape than from a cruel savage" (notice incidentally a senseless dilemma, since Darwin's pedigree leads

upwards from apes through the generation of savages to men of culture), gives occasion to his confusion to the naturalist Wigand to say (*Darwinism u. Naturf.* i. 443): "But that Darwinism, overcome by bestial desire, *i.e.* by the desire of stamping man, at any price, as the perfect beast, attacks prematurely, plumply, and awkwardly, his proper goal, and then, all at once, falls into the danger of unmasking and deriding itself, proves sufficiently that the descent of man from the ape is actually not only the summit, but also the deeper design of the whole theory."

The Harz literate, whose report on my book Professor Schürer esteemed as suitable to transfer into his periodical, has confounded the idea of a review with that of a lampoon (nevertheless, he yet makes it a matter of derision that I speak of an "unconscious thinking," as if he never had heard of a "Philosophy of the Unconscious," and as if I were the inventor of that idea, which I rather rectify and have designated as "unreflected thinking"!). Accordingly, he will not surely expect a more extended consideration than that which has fallen to his share in § 75, *Obs.* 2. But his dishonourable falsehood cannot pass with impunity, when he says of my philological investigations, that I had made use of the same on the ground of two years' studies. Who told him that? In the preface to the first edition it is mentioned, that two years before the publication of the book I treated the same subject in lectures from the lecturer's chair; with the Harz lampooner it may, perhaps, be customary to commence his preparatory studies on the day when he begins to teach; with me it is not so. It is now forty-one years since, under the direction of Friedrich Rückert, I made my first philological studies, and if the Harz literate possessed a knowledge of the things of which he speaks, he should have discerned from the lexicon in my *Handbuch der mittelhälischen Sprache*, which appeared four years before the *Apologetics*, to what extent in 1869 my philological studies had already extended.

If this Schürerian lampooner sneers at me as a despiser of metaphysics, because I hold nothing with these metaphysicians, who, like Hegel and Rich. Rothe, construct *à priori* God and the world out of an abstract concept, I am glad to find my conviction, expressed in the preface to the first edition, of the attitude of philosophy to natural science, entirely in accord with a man like Wigand, who (*l.c.* ii. 68) writes: "To wish to deduce the particular from the general truths of reason, instead of deriving the general from the particular, as experience furnishes it, and of referring the particular to the ultimate principles, is false philosophy. And, on the other hand, the philosophy of nature is not permitted to attempt to construct the absolute from the particular, the spiritual from the material, otherwise it is false philosophy of nature."

A. EBRARD.

ERLANGEN, 2nd July 1877.

PREFACE TO THE FIRST EDITION (1874).

FOR a series of years the conviction had ever more strongly impressed itself upon me, that those who are to become ministers of the Gospel must occupy themselves in a far more penetrating and thorough manner with the researches, questions, and principles of natural science than has hitherto been done, if they desire in their vocation to be in the position to lead the combat against the antichristian current of the age with success. It is indeed true that the positive testimony of the guilt-extinguishing and sin-subduing grace of God in Christ has its power in itself, and exhibits the same in all those who have become conscious of their guilt and weakness; but how many thousands there are in our day who do not reach such a longing desire for salvation, because the last foundations, upon which the consciousness of the ethical antithesis of good and evil rests and the desire of salvation becomes distinct and clear, have already been removed from under their feet by the theorems of the materialistic spirit of the age! Hence the indispensable task arises of finishing the labour of building with the one hand, but with the other of bearing weapons against those who are sedulously endeavouring to undermine the foundation of the building (Neh. iv. 17).

This consideration led me in the winter of 1872-73 to deliver academic lectures, to which, in order to insert them into the scheme of the customary theological discipline, I gave the name "Apologetics," though that title was only half adequate. My hearers were theologians. I myself would

still have wished an equal number of medical students for auditors, for I know what severe internal conflicts a youth of the present day, educated in the Christian faith, has to contend with when he enters upon the study of medicine or of natural science. In order even to shed a light into the labyrinth, into which a science no longer conscious of its limits, and overbearing in its conclusions, leads them, and in order to demonstrate scientifically, in opposition thereto, the complete scientific authorization of the Christian point of view, before the eyes of the whole world, I resolved to prepare for the press the material which I used in those lectures. Moreover, I myself was from the first quite conscious that there will always be people who, without examining, will push aside my work with the phrase: that a theologian can understand nothing of natural science, and that each should keep to his profession. Such critics I will not disturb in their complacency; he who will take the pains to read my book will soon enough be convinced that I do not presume to make new scientific discoveries, or to overthrow and condemn those that have been made. It, surely, will not be an offence that I proceed from the results of the investigation of nature as from given facts, and that I take note of these results, and have not begun only since the year 1872 to occupy myself with the natural sciences and the questions of their principles; if it is the custom to reproach theologians so readily with the censure, that they care nothing about the exact sciences, this censure concerns me not, rather should I have to reap the praise, that from youth I have followed the course of the development of those sciences with interest and with the honest labour of attentive study.

Of course, I distinguish from the results that which is mere hypothesis, but I especially examine critically the conclusions, which are drawn from the province of the sensuously observed to that of the supersensuous.

This I do not from the standpoint of an abstract *a priori* metaphysics. To such my whole nature is most

heartily opposed. He who will take the pains to read my book will find that my philosophic method is absolutely realistic ; that I proceed from observed facts and with painful care, step by step, forwards ; only, of course, that I lay at the basis of my investigation complete series of facts ; that I do not belong to those who obstinately close their eyes in presence of that which does not suit their preconceived opinions, or whose impulse for knowledge and desire of research suddenly becomes extinguished, so soon as they observe that they would necessarily get an answer on further research that would contradict that which they wish to find.

In a Second Part, which in the manuscript is almost completed, and which, I hope, will quickly follow this First, I apply the truth of Christianity to the measuring-rod of history, as in this First to that of nature and of the natural consciousness. The history of the religion and culture of humanity when left to itself, if treated with critico-scientific thoroughness, must of itself furnish the decision, whether the human race is comprised in a process of normal development upwards from an animal savage state, or whether, in spite of the casual advances of external civilisation, there is exhibited in history a constant decline from the position of the primitive knowledge of God down to ever deeper degeneration and barbarousness of man's inner nature, and consequently the destructive power of sin and the need of redemption.

CONTENTS.



INTRODUCTION.

§	PAGE
1. Apologetics or Apology,	1
2. Apologetics a Science,	2
3. Nature of Apologetics,	3
4. Double Problem of Apologetics,	5
5. Defence of the eternal Contents of Truth. Distinction between Apologetics and Polemics,	6
6. Instances and Limits,	7
7-9. Defence of its Historical Character,	8
10. Formal Outlines,	12

FIRST PART.

THE ETERNAL CONTENTS OF THE TRUTH OF CHRISTIANITY ACCORDING
TO THE FACTS OF NATURE AND OF THE HUMAN CONSCIOUSNESS.

FIRST BOOK.

POSITIVE DEVELOPMENT.

11. Nature of Christianity,	15
12. Maxim of Christianity,	15
13. Postulates of Christianity,	16

FIRST SECTION.

THE ETHICAL LAW AND ITS AUTHOR.

CHAPTER I.—THE MORAL LAW.

14. Wrong and the Moral Judgment,	17
15. The Evil Conscience,	18
16. Evil and the Ethical Law,	20
17. Origin of the Ethical Law,	21
18. "Nature" and "Essence,"	22
19. Necessity and Obligation,	23
20. The Ethical Law no Law of Nature,	23
21. Insufficiency of the Development up to the Present,	24

CHAPTER II.—THE FACTS OF CONSCIOUSNESS.

22. Point of Departure,	25
-----------------------------------	----

(A) KNOWLEDGE OF THE EXTERNAL WORLD.

§	(a) <i>Man a Part of the World.</i>	PAGE
23.	Sensation and Perception,	26
24.	The Perceiving Subject,	27
25.	Perception, gradual,	28
26.	Perceiving and the Existing Object,	28
27.	Identification of the Subject with its Body,	31
28.	Space and the Knowledge of Space,	32
29.	The Dimensions and the Form of being conscious of them,	35
30.	Time and Reminiscence,	36

(b) *How is Man conscious of the World?*

31.	Reminiscence, no Activity of the Brain and Nerves,	38
32.	Disjunction of the resembling or Formation of the Concept,	41
33.	Synthesis,	45
34.	The Category of Inherence and the Judgment,	46
35.	Negative Judgments,	49
36.	The Category of Causality,	50
37.	The Category of Conditionality,	53
38.	The Category of Necessity and Possibility,	54
39.	The Intellectual Monad,	55

(c) *The Province of the Will.*

40.	Transition,	56
41.	The Sensitive and Motor Nerves,	57
42.	The Will no Corporeal Process,	57
43.	Essence of the Will,	59
44.	Nature and History,	61
45.	The Category of Reason, of End and Means,	61
46.	Enlarged Concept of Possibility,	66

(d) *Symbolic Identification.*

47.	What is Symbolic Identification?	66
48.	Language. Writing and Speech,	70
49.	Is the Origination of Language a Natural Occurrence?	71
50.	Is the Origination of Language an Arbitrary Act?	78

(e) *The Province of Unreflected Thought.*

51.	Unconscious Thinking and Acting,	81
52.	Impossibility of the Materialistico-Mechanical Explanation,	84
53.	The Reflective Consciousness in Antithesis to Quiescent Knowledge and Unreflected Thinking is one bound to the Activity of the Brain,	90
54.	Genial Production,	94
55.	Intellectual Contents, Talent and "Personalities,"	96
56.	Summary,	99

(B) KNOWLEDGE OF SELF.

57.	New Problems,	100
58.	Self-consciousness independent of the Cognition of the External World,	104
59.	Self-consciousness independent of the Body,	106

(a) *The Self-Certainty of the Ego.*

60.	The Ego is absolutely certain of itself,	110
61.	We perceive not Things but only Effects,	112
62.	There is no Matter,	116
63.	Laws are the only Existing Things in Nature,	121

(b) *Nature a Complex of Laws.*

§	PAGE
64. The Categories of Natural Law,	124
65. Inorganic and Organic Nature,	125
66. The Vital Power,	131
67. The Higher Monads, and Monads of Lower and Middle Order,	134
68. The Vegetable Kingdom and Animal Kingdom,	142
69. The Psychical Functions of the Animal,	145
70. The Animal forms no Concepts,	150
71. The Animal posits no Ends, chooses no Means,	153
72. The Animal has not Intellect but Instinct,	156
73. Adaptation in Nature,	162
74. Proof of the first Teleological Thesis,	164
75. Proof of the second Teleological Thesis: (α) from Vegetable Life,	168
76. (β) From Animal Life,	176
77. Proof of the third Teleological Thesis,	189
78. Nature and Man,	195

(c) *The Relation between the Ego and the Laws of the Objective World.*

79. Subjective and Objective Rationality,	198
80. The Ultimate Design of Nature: Man,	199
81. In Humanity the Individual is a Self-end,	200
82. The Onset-Point of Pantheism,	203
83. Pantheism a Paralogism,	204
84. Question of the Design-setting Author,	207

(C) THE KNOWLEDGE OF GOD.

85. The Design-setting Author of the World is not the Individual Ego of Man,	208
86. Necessitated Cognition and Arbitrary Volition,	209
87. The Impotence of the Will,	211
88. The Design-setting Author can only be a Self-conscious One,	212
89. Can the absolute primary Being be self-conscious and personal,	216
90. God, the self-conscious Author of the World,	219
91. Real Objectivity and Object-Existence,	221
92. Subject-Existence and two kinds of Subjectivity,	223
93. The Eternal Intellectual Contents of God,	225
94. Half-Pantheism,	226
95. Scholastic Proofs for the Existence of God,	227
96. The correct Form of the Proofs for the Existence of God,	230
97. God is Love,	234
98. The true ultimate Design of the Universe,	235
99. Return to the Ethical Law,	236

CHAPTER III.—THE ETHICAL LAW.

100. The Feeling of Constraint to Know God,	236
101. Wisdom, Happiness, Holiness,	239
102. Personal Continuance after Death,	244
103. The Cognizance of God an Act of the Will,	246
104. The Ethical Law of the Destiny of Man,	248
105. The Ethical Proof for the Existence of God,	248

§	PAGE
106. Conscience,	250
107. Contents of the Ethical Law,	251
108. Defective Apprehensions of the Ethical Law,	252
109. Development of the Contents of the Ethical Law,	255

SECOND SECTION.

SIN.

(a) *Existence and Essence of Sin.*

110. The Fact of Sin,	259
111. The Essence of Sin and its Principal Forms,	260
112. The Originating Basis of Sin and its Possibility,	262
113. The Collective State of the Human Race is a Sinful State,	263

(b) *Sin is a Power enslaving the Individual.*

114. A Problem : The Will of the Individual is free and yet not free,	266
115. (α) Sin, a Pathological State of the intellectual bodily Organism of the Individual,	267
116. The <i>a priori</i> Limit to the Freedom of the Will,	268
117. First Pathological Effect of the Evil Volition upon the Individual : The Displacement of the Aims of Life,	269
118. Second Pathological Effect of the Evil Will upon the Individual : The Consciousness of Guilt,	272
119. Third Pathological Effect of the Evil Volition upon the Individual : Corruption of the Psychico-Bodily Life,	274
120. Fourth Pathological Effect of the Evil Volition upon the Individual : The Blinding of Cognition,	277
121. (β) Pathological Effect of Sin upon the Human Race : Influence of the State of the Procreator upon the Will of Offspring,	279
122. Explanatory Hypotheses,	282
123. Correct Explanation,	286
124. Pathological collective Effect of Sin : The Development of Humanity becomes Entanglement,	295

(c) *The Origin of Sin.*

125. The Origin of Sin lies in the Commencement of the Human Race,	298
126. The Sphere of Freedom and the Concept of Permission,	303
127. The Divine Government of the World,	307
128. Authenticity of the Fall,	310

(d) *Nature, ordered for the Possibility of Sin.*

129. The purposed Imperfectness of present Nature,	314
130. The purposed Discord between Intellect and Sensuality,	317
131. Purposed Mortality,	319
132. What should have become of present Nature in the case of a Sinless Development of Humanity,	320
133. The Possibility of a higher, a "glorified" Nature,	323
134. Possibility of the Miracle,	325

THIRD SECTION.

REDEMPTION.

(a) *The Need of a Divine Act of Redemption.*

135. Outlines of the Idea of Redemption,	328
136. Man's Inability to redeem Himself,	329

(b) *The Divine Act of Redemption as set forth in Revelation.*

	PAGE
§ 137. The Mystery of the Personal Life within the Godhead, .	332
138. The Divine Act of the Redeemer,	334
139. Fruit and Power of the Divine Act of Redemption, .	338

(c) *The Truth of the Gospel regarding the Divine Fact of Redemption.*

140. The Gospel no Human Invention,	341
141. The Divine Act of Redemption in Christ corresponds to the Requirements of Redemption,	342
142. Christ's Incarnation and His Miracles are conceivable, .	346
143. The Singularity of the Act of Redemption and Insignificance of our Planet,	353

SECOND BOOK.

EXAMINATION AND REFUTATION OF SYSTEMS OPPOSED TO CHRISTIANITY.

144. Survey of the Field,	369
-------------------------------------	-----

FIRST SECTION.

THE MECHANISTIC SYSTEM, OR THE DENIAL OF THE PRINCIPLE OF ORGANIC LIFE.

145. Denial of the Idea of Force generally,	371
146. The Achilles of the Materialistic Theory of Nature and his Heel,	373
147. Denial of the Idea of Vital Force. Elucidation of the Question,	375
148. Impossibility of Mechanistic Explanations of the Functions of the Blood,	378
149. Impossibility of the Mechanistic Explanation of Reflex Motions,	383
150. Impossibility of the Mechanistic Explanation of the Regenerative Principle,	384
151. Impossibility of the Mechanistic Explanation of Instinct, .	388
152. The Theory of Pangenesis,	390

SECOND SECTION.

TELEOPHOBE, OR THE DENIAL OF THE PRESENCE OF DESIGN IN NATURE.

153. Is there no Evidence of Design in rudimentary Organs, .	396
154. The presumed Absence of Design in Nature,	400
155. The Proof of Teleology and its Witnesses,	402

ERRATA.

- Page 22, line 12, for *psychico-spiritual* read *psychico-intellectual*.
,, 23, ,, 12, for *the self-determination* read *his self-determination* ;
line 12 from foot, for *act* read *operate* ; line 8 from
foot, for *acting* read *which operates*.
,, 25, ,, 1, for *In the knowledge of the world* read *In our cognition
of the external world*.
,, 39, ,, 17, insert *something* before *perceived* and *perceiving* ; line
21, insert *thing* before *perceiving* ; line 6 from foot,
for *perceiving* read *perception*, and insert *thing*
before *perceiving* ; last line, insert *something* before
perceiving.
,, 42, ,, 3 from foot, transpose *species* to line following, before
consequently.

INTRODUCTION.



§ 1. *Apologetics or Apology?*

IF I have not put at the head of the title the word “Apology,” following the Church-Fathers, but the word “Apologetics,” adapting myself to modern usage, this was done not without warrant. And yet before the question: What is Apologetics? the preliminary question: Whether there be a science of Apologetics at all? must be examined and settled. According to the verbal explanation Apologetics is the science of ἀπολογεῖσθαι, thus therefore the science or discipline which investigates the nature of defence, the nature of apologetic activity, and from out this nature deduces the correct method. Accordingly, apologetics would thus stand related to apology as a theory to its practice, analogously therefore as homiletics to the sermon, liturgics to worship, catechetics to catechizing, halieutics to the care of souls. But now there meets us from the very first a phenomenon, which must startle us and lead us on to a thorough examination. Whilst, namely, even with the so-called theoretical discipline of theological art or of ecclesiastical action, theory and practice, doctrine and application, constantly remain precisely and clearly separated, so that homiletics never passes over into homily, liturgics never into liturgy, etc.; so, on the contrary, we nowhere empirically see a science of

Apologetics, still we can imagine one such, which might not immediately pass over into apology and become the apology. In the department of war the science of the defence (*e.g.* of a country or of a fortification) will clearly distinguish itself from the action of the defence; in the domain of Christian theology, apologetics never restricts itself to the theory: How we are to defend, but becomes scientific defence itself.

§ 2. *Apologetics a Science.*

The reason is not difficult to be comprehended. That separating of theory and practice has positively a place only in the domain of theological art, that is, of ecclesiastical action, an action whose rules result from theological science, but which according to these rules cannot without practice be appropriated as capacity or art, or aptitude. Quite differently is the defence of the truth of Christianity. It may indeed find a place within the different branches of ecclesiastical action (for example, of the sermon, of the care of souls, of catechizing, of foreign and home mission). In itself, however, it coincides with none of these ecclesiastical acts, and is no part of ecclesiastical action, but is essentially a science. For only a scientific defence of the truth of Christianity merits at all the name of a defence; the extreme limit whereunto the so-called "Apologetics" claims to go is no capacity of an action, but a cognition, namely, the cognition of the truth of Christianity. Thereto the name "Apologetics" does not seem or only half seems to be suitable. What this name denotes: "The science of defence," this would be a very empty and formal discipline. For concerning defence *in abstracto* nothing can be said than what amounts to a few quite general, formal concepts. Every defence accommodates itself to the object which is to be defended; a fortification is otherwise defended than a chess-man, a nest otherwise than a theorem, a mathematical theorem otherwise than a philosophical assertion, both otherwise than a thesis of morals. Now

Christian apologetics has for its object the defence of Christianity; for according to the use of language we understand under Christian apologetics not the science, to defend any agreeable object whatever in a Christian manner, but the science, how Christianity is to be defended. "Christian" is here an object-attribute, not a quality-attribute; "Christian apologetics" is as much as the "apologetics of Christianity," that is, the science of the apology of Christianity.

§ 3. *Nature of Apologetics.*

And now, finally, there nevertheless arises here, at least, a relative warrant to adhere firmly to the designation "Christian apologetics." Between it and a bare "apology," however, there exists a distinction, though a fleeting one. As a "science of the defence of Christianity," apologetics is distinguished from the bare apology as such by the method of the principle. There are apologies, oral or written, which prosecute definite objections or reproaches brought against Christianity, and thereby permit of being defined in their method; thus has Justin Martyr directed both his apologies against a series of definite individual attacks; such an apology may as an apology be quite excellent, and nevertheless for this reason be one-sided and as apologetics unsatisfactory. Christian apologetics is distinguished from the mere apology by this, that it is not determined in course and method by the attacks appearing casually at any point of time, but from the nature of Christianity itself deduces the method of the defence of the same, and consequently the defence itself. Every apologetics is an apology; but every apology is not an apologetics. Apologetics is that science which deduces from the nature of Christianity itself what classes of attacks are generally possible, what different sides of Christian truth may possibly be assailed, and what false principles lie at the bottom of these attacks. Apologetics is the science of the defence of the truth of Christianity.

Obs.—It is no definition, when Hänell (*Stud. und Krit.* 1843, 3) designates apologetics as “the science of the ground common to the Church and to theology.” (This ground is Christ; Apologetics would be the science of Christ!) Drey (*die Apologetik als wissenschaftliche Nachweisung der Göttlichkeit des Christenthums*, 1838, 2 Aufl. 1844–47), the papal theologian, formally, falsely defines the same as “philosophy of the Christian revelation and of its history.” A philosophizing over a given object (as over revelation), nay, even over an object of faith, is indeed possible (what Chr. Ed. Baumstark with injustice denies, S. Mehring, however, has proven by fact in his *Philosophisch-kritischen Grundsetzen der Selbstvollendung*), such a philosophizing may even bear an apologetic character; and again, every true apologetics will be compelled to proceed not empirically but philosophically; in reality, therefore, Drey’s definition is not so wholly unsuitable, but formally it is incorrect, because instead of developing the conception of apologetics, it only names a means which apologetics has to make use of. Lechler (“über den Begriff der Apologetik,” in the *Stud. u. Krit.* 1839, 3) better defines this as “the scientific proof of the Christian religion as the absolute.” Only too little is therewith expressed, for apologetics is not merely the proof, but the science of the proof of the truth of Christianity. There is also with the concept of the absolute religion something of a foreign nature introduced, just as there is something too special introduced with the concept of “divinity” by Drey. The question is simply asked: Is the statement which Christianity gives of itself true or untrue? If this be decided, everything further concerning its absoluteness or divinity, etc., follows as a matter of course. Chr. Ed. Baumstark (*christl. Apologetik auf anthropologischer Grundlage*, Frankf. a. M. 1872) contends that “apologetics is the science of apology,” and is defined: The “scientific defence of Christianity as the absolute religion.” Apologetics becomes such, as we have seen; hence even I myself have put both alike to the title of the book; but a definition it is not. Besides, Baumstark himself afterwards acknowledges that apologetics, in distinction from an apology, has to defend Christianity not merely on the one or the other side, but on all conceivable sides. This, however, is indeed only possible when apologetics deduces from the nature of Christianity the possible attacks upon the same, and by this means just becomes the science of the defence of the truth of Christianity.

§ 4. *Double Problem of Apologetics.*

Now Christianity, according to its own documentary statement (in the Holy Scripture), is the redemption of men from an abnormal state, behaviour, and relation to God, contradictory to the will of God and the nature and destiny of man, to the normal state, behaviour, and relation, corresponding to the will of God and the nature and destiny of man, accomplished in time, and continually being effected by the eternal, living, personal God. Christianity, according to its own declaration, is thus (*a*) not a truth, relatively and only relatively of value, or a stage of knowledge of the truth, but the eternal absolute truth; but (*b*) this truth is not in the form of a doctrine or precept, but in the form of an actual realization. Christianity is a temporal-historic act of salvation, consequently an historic fact, but a fact of eternal, absolute contents. Thus "the truth" (*ἡ ἀλήθεια*) as "the life" (*ἡ ζωή*) has personally appeared in history in the person of Christ. Thus in the passion and resurrection of Christ the eternal, normal relation between man and God is restored by an act that has happened in time; thus the conversion of the individual to Christ and faith in Christ is a filling of the soul with eternal contents that happens in time. If, now, Christianity is such an interlocking of a temporal-historic occurrence and of the eternal substance of truth, it follows immediately: That the attacks against Christianity may direct themselves either against the eternal substance of truth, or against the temporal occurrence, that consequently either the eternal contents of the truth of Christianity or its historic character may be attacked.

Obs.—Hence it was a one-sided definition of Christianity, when Sack (*christl. Apologetik*, 1829, 2 Aufl. 1841) defined the same as "the theological discipline of the ground of the Christian religion as a divine fact," and when in conformity to this he assigned to systematic theology the task to develop the "ideal side" or eternal truth of Christianity, while apologetics

has to deal with the actuality of Christianity. Sack, of course, was led to this one-sided definition through this, that during that decade the attacks (de Wette's, then Strauss') were directed almost exclusively against the historic character of Christianity. If Sack had lived to see the modern attacks of materialism against the doctrine of the existence of a life, of a soul, of a personality, of a theology, of a God, his definition would scarcely have proved so one-sidedly deficient. He might, however, have been able to recollect the French encyclopedists! His chief fault, however, remained, that he started directly from the attacks lying for the moment before him, instead of deducing from the nature of Christianity the nature of apologetics.

§ 5. (A.) *Defence of the eternal Contents of Truth. Distinction between Apologetics and Polemics.*

The eternal contents of the truth of Christianity is attacked when the truths, which Christianity teaches or presupposes, are denied and represented as falsehoods. The attacks which apologetics has to meet, are directed against those truths as such, and thereby apologetics is distinguished from polemics; the latter has to contend against tendencies which deny not the truth as such, but only deny, or apprehend in a wrong way, the connection of those eternal truths with the facts of Christianity.

Obs.—The common systems of rationalism, such as Socinianism and Pelagianism (and even Ebionitism), do not deny the historical character of Christianity, do not explain the same as a myth, do not even deny the eternal truths: that there is a God, that there is a law of God, an ethical law for men, that the transgression of this law is sin; not even that Christ has come to deliver men from sin, consequently to redeem them. But they deny that kind of connection of the facts with the eternal truths which revelation teaches us in the records of Christianity: that in Jesus Christ the eternal substance of truth has personally appeared, that He through an expiatory offering has delivered men from guilt, that deliverance from guilt must precede that from sin, etc. They reduce redemption to mere doctrine or example, to an inculcation of the law. This is a disfigurement of Christianity, *αλπεσις*, not a direct denial. Analogously as these Ebionitizing tendencies, only in an opposite way, the Docetizing act in a disfiguring manner, the Antinomian act

analogously as the legal heresies. The combating and refutation of these disfigurements of Christianity is the task respectively of polemics, of dogmatics. Apologetics, on the other hand, has to demonstrate the truth of Christianity against attacks which, having grown up on the soil of infidel and antichristian consciousness and thought, assail and deny the eternal truths of Christianity as such. When, for example, materialism asserts, the soul and thought are mere functions of the brain-ganglia,—when materialism and pantheism assert, there is no continuance after death, consequently neither eternal happiness nor eternal perdition, consequently the entire supposition of the necessity of a redemption is from the beginning a delusion or fancy,—or the freedom of the will is only an appearance; every man acts in every moment with necessity, to which his nerves and brain-ganglia impel him; the distinction between good and evil is only determined by custom and convenience; there is no ethical law existing in itself, consequently also no sin—or, there is in nature and the order of the world no design, consequently also no Creator positing ends,—these are denials of Christian truths as such; the ground is thus removed from under the feet of Christianity, and with these questions has apologetics to occupy itself; it has to investigate scientifically, whether these attacks are established and how they are scientifically to be refuted.

§ 6. *Instances and Limits.*

Of course, apologetics is permitted to bring with it to these investigations no axioms taken from revelation and theology, but only to recur to the facts of our knowledge of self and of the external world, and of natural knowledge, existing as such among men. We do not mean to prove *idem per idem*, this would be an ill and objectionable art. To presuppose the Christian consciousness formed in a Christian manner, and to analyse the same, is not apologetics. Apologetics, if we consider it according to its practical significance, will afford guidance to the practical theologian, to the minister of the Church, and generally to every Christian and Church member, how he has to defend the truths of Christianity against such, who still stand without the faith, against infidels and mockers. Not, that in the way of deduction and argumentation a scoffer or unbeliever can be converted to Christianity. Only re-

pentance, which in the tortured conscience actually perceives the holy legitimate will of God and asks: "What must I do that I may be saved?"—it only leads to the Christian faith. But besides scoffers and deniers of Christianity, there are also weak and wavering believers, who stand in danger of being led altogether astray by those decided enemies to their faith; for their sakes it is necessary to meet the specious argumentations of unbelief, and indeed with such reasons and argumentations to which these deniers themselves can object nothing; consequently it is necessary to descend to them on their ground, on their arena, to get rid of all axioms taken from Christianity itself, and to lead them *e concessis ad absurdum*, to prove to them, that their assertions and inferences from their own premisses are false and perverted. For this reason, the apologetics of Christianity in its first part, where it deals with the defence of the eternal truths of Christianity, has entirely to proceed solely from the general human facts of consciousness and from the certified results of the philosophy of nature, and has to ask, whether the presuppositions of Christianity: the existence of a living holy God and of an ethical law, the freedom and accountability of the will, the existence of a state conflicting with the law, and the incapacity of self-redemption, agree with the facts of nature and of the natural consciousness or disagree therewith. The problem of the first part of apologetics is comprised in the words: The eternal contents of the truths of Christianity according to the facts of nature and of the human consciousness.

§ 7. (B.) *Defence of its Historical Character.*

The other side of Christianity is its historic character. Redemption through Jesus Christ is an event that occurred in the land of Judea nearly two thousand years ago. Against the historical character of Christianity the attacks of infidelity and antichristianism are directed, and are herewith directed above all against its historical documents, the biblical Scrip-

tures, and indeed, in the first place, against the authenticity of their contents, of which they "would like to get rid" (Strauss, *Life of Jesus for the German People*, 1864, Preface, p. xiv.), consequently, against the credibility of those writings, and then, as a means in order to be able to contest this credibility, against their genuineness and their age. Now the researches on these matters form, under the inappropriate title of the "Science of Introduction," or under the more appropriate name of the "Critique of the Scriptures of the Old and New Testaments," a special part of theology, a very extended and circuitous discipline, which has of course strictly assumed an absolutely apologetic nature, but nevertheless does not belong with its details to apologetics, not merely on the ground of suitableness, for through the magnitude of its extent it would burst the limiting form of our science, but for the internal reason, because that "critique," in as far as it has necessarily to follow up the definite objections, made at any one time, and the views and hypotheses advanced, and to prove and to illustrate the same, belongs absolutely (according to § 3) to apology, but not to apologetics.

§ 8.

Apologetics has also to fix the eye on the historical character of Christianity, together with the attacks on the same, but in another manner, from a more general and wider point of view. You will also have here to inquire for the general possible attacks, and to develop in principle the method of the defence. The historical fact of redemption has for its presupposition the historical reality of another fact, namely, a revolt that has occurred in time, of the creature's will against the eternal, ethical, legitimate will of God. With this presupposition stands and falls Christianity, that of the Bible and revelation. For pantheism, which regards moral evil not as a revolt of the will of the creature against God, not as a defection, disturbance, and corruption, in a word, not

as sin, but contemplates the same (like its father, the Devil, Gen. iii. 5) as good becoming and only not as yet attained to full development, nay, as the necessary moment of transition to the good, and which therefore even needs no redeemer beside humanity redeeming itself,—and, moreover, materialism, which develops humanity out of an ape-like condition,—they are the direct opposite of biblical Christianity. Now, according to the pantheistic assertion, a constant progress in the history of humanity takes place from more undeveloped conditions to the more developed, and therefore to the better. Whether this is really so, we afterwards interrogate the history of the human race. As in the first part, the facts of nature and of the natural consciousness form the court to which we appeal; so for the second part, the general history of culture and of religion, of the civilised as well as of the savage nations, form the court at which we seek and find an answer to the question: Whether in the history of the human race a constant development from beneath upwards, or whether an incessant entangling of a constant degeneration from above downwards can, in fact, be historically established.

§ 9.

While we consider Christianity as a historic fact in its organic connection with the general history of religion, not only will the historic proof for the fact of a revolt of the human will from the divine will, perverting the development into entanglement, follow from the declension, demonstrable by documentary evidence, from original monotheism to pantheism, but, moreover, there yet meets us there the remarkable fact, that directly within those kindred peoples—the Semitic—who have first enhanced sin to Satanic depravity, and not only loosened the relation of religion to ethics, but have perverted it to its horrible opposite,—the worship of the Godhead by sensuality and murder,—a single race with every inclination to like corruption, nevertheless, presents the con-

trary phenomena, since with it the knowledge of holiness, and consequently also of the unity and personality of God, as the conscious knowledge of the curse and misery of sin and of the necessity of an expiation, was present through all centuries and millenniums, and after each obscuration ever again broke out anew. The problem of the investigation will be, whether this phenomenon admits of being explained, in the sense of pantheism, from the factors of natural development, or whether, in the sense of the Holy Scripture, there must be acknowledged a series of facts revealed by the living God, who redeems men from the entanglement of sinful corruption.

And finally, if even among this Semitic people the historical ground is given, upon which Jesus Christ as the Redeemer of the world appears, it is sufficient—irrespective of all special researches concerning the age and origination of the individual Gospels—to cite the double fact of the celebration of the Lord's Supper and of the Lord's day, as positive proof for the authenticity of His death and resurrection, and the testimony of the Pauline Epistles for the supernatural character of His person.

But not merely by His entrance into the history of sinful humanity, but also by His effects in the same, does Christianity claim to be proved by history. The proof of the heavenly fruit, which it has brought, is not difficult to give; but also the important fact, that every form of corrupted Christianity that has been drawn into the service of sin and intertwined with lies has produced much more hideous and pestilential abominations than those ever found in heathenism, as certainly as the mouldering corpse of a man spreads much fouler odours than the carcase of a beast, adds only to the enhanced proof of the truth of Christianity. Here also the history of religion, considered in the divine light, becomes entirely the apologetics—not of that which has been constantly called Christianity, but of that which is Christianity according to the Holy Scripture. Consequently the problem of the second part of apologetics is comprised in the words: Christianity as an historic fact in its organic connection with the general history of religion.

§ 10. *Formal Outlines.*

The character of apologetics in distinction from a mere apology is perceived, since the positive investigation forms the starting-point, and the refutation of opposite theorems is only added thereto. Particularly does this appear in the first part, where in a "first book" the facts of the natural consciousness and of objective nature are to be interrogated in systematic succession, before in a second book the particular theorems and systems opposed to Christianity are refuted, and are there considered in their inner contradictions. Also in this second book of the first part, where apologetics visibly becomes apology (cf. above, § 1), it is distinguished from a bare apology (in the sense of § 3) by this, that it draws into the circle of its investigation not only some antichristian theorems casually appearing directly in the present, but into systematic grouping whole genera of theorems, which may be directed against all the fundamental doctrines and presuppositions of Christianity, in the collective formations, in which they have hitherto appeared. Future formations, of course, it is not able to foresee in detail, and so far it is, like every human science, not one complete in itself, but progressing in and with the time. The latter is true in like manner of its second part. The historical material of religion, with which it is here occupied, has in its most important parts been first brought to light in modern time by the researches of Max Müller, Spiegel, Dunker, and others; there might have been an investigation a generation earlier, still, as we give it in the second part, it would not have been at all possible. In ethnography and the history of the religion of savage peoples our knowledge at the present day is still incomplete; here our chief canon must be, not to fill up the gaps by windy hypotheses, but to acquiesce in conclusions from that which is firmly established. Thus the error is shunned which upon the side of the opponents of Christianity is, as is well known, in the order of the day.

FIRST PART.



THE ETERNAL CONTENTS OF THE TRUTH OF CHRISTIANITY
ACCORDING TO THE FACTS OF NATURE AND OF THE
HUMAN CONSCIOUSNESS.

FIRST BOOK.



POSITIVE DEVELOPMENT.

§ 11. *Nature of Christianity.*

CHRISTIANITY, according to the declaration of its own documents, and according to the confession of the whole Christian Church, is not a religion but the religion, because it is the redemption. As redemption—not in the first place from physical evil, but from moral evil—it has reference to the antithesis of good and bad, as religion, however, to the relation of man to God. Consequently in Christianity the relation of man to God and the ethical behaviour are related to one another, and thereby the religion of the old and new dispensation differs from heathen religions, in which latter religion and ethics are not related, or only relatively and imperfectly, to one another, and hence fall apart as a mythological fear of the gods and philosophic morals. On the other hand, Christianity, according to its own declaration, is redemption from ethical corruption, as from the abnormal relation to God, and therefore it is the only way to escape corruption, and to attain to the right relation to God, *i.e.* to the knowledge of truth, to holiness, and to happiness.

§ 12. *Maxim of Christianity.*

According to its own declaration Christianity is not—and it claims not to be—a relative stage of theoretical and ethical development, but simply the truth, the absolute truth; but, again, it is not, and it claims not to be, a mere theoretic

statement of this truth, or a mere ethical precept of the same, but a divine act of redemption, conformable with absolute truth and including the same in itself, from an abnormal, God-opposed, and false condition to the absolutely normal condition, consequently: An act of eternal import that has happened in time.

§ 13. *Postulates of Christianity.*

Herewith Christianity presupposes—(1) An eternal ethical law, in comparison with which the actual condition which Christianity meets with in humanity appears as an abnormal one, contradictory to the will of the eternal Lawgiver, and therefore equally so to the true nature of man determined by Him; and (2) An act that has occurred in time, not determined by the eternal Author of this law, consequently only proceeding from the will of the finite subject, by which the abnormal condition was induced and caused, which act, together with its propagation spreading its influence more widely upon collective humanity, is designated with the most general expression as sin. In the first of these postulates lies, inclusive of itself, that of an eternal Author of the moral law, therefore of a holy Author of man, and consequently of the world; in the second, that of a sphere of free self-determination given over to man by this Author. The question is now asked, whether the facts of nature and of natural experience and of the general human consciousness agree with these postulates.

Obs.—The opponents of Christianity will be compelled to concede to us, that whilst we honestly state the Christianity of the Holy Scripture in its full integrity, and do not trim it by a method of “halving” to fit the mouth of the pantheistic spirit of the age, we do not make our apologetic task easier to ourselves, but more difficult! Enlightened Christians will understand that we by this means just make the solution of the same possible.

FIRST SECTION.

THE ETHICAL LAW AND ITS AUTHOR.



CHAPTER I.—THE MORAL LAW.

§ 14. *Wrong and the Moral Judgment.*

IN life and the daily experience of men phenomena occur, which affect our feeling disagreeably, or quite differently from those hindrances caused through a necessity of nature and the natural conditionality and limit of our existence, which we are accustomed to designate as sicknesses and corporeal pains—phenomena, namely, which fill us, not with corporeal feeling of pain, but with anger, detestation, and horror. The general characteristic of such phenomena is, that they are not caused immediately¹ through a necessity of nature, but have their cause in the self-conscious self-determination of other men, and are consequently actions. That in us which reacts against such actions is not the vital powers acting involuntarily in us (in virtue of which we breathe and digest), but our own self-conscious self-determination, our will, and those actions we designate not as sicknesses, sufferings, and the like, but as an injustice that has befallen us (or others). The reaction of our will, however, consists in this, that man—I speak here not of the Christian, but of man as he appears in his natural state—repays the action of the other, who has

¹ I add this “immediately,” because the question, whether, perchance, the self-conscious decision of the will is not itself again (in the sense of materialism) to be derived from a necessity of nature, is, at this point of our investigation, still undecided.

caused him this impression, with an analogous action. Wrong is done to the man, and he avenges himself. In this reaction there are two moments contained: (a) The judgment, that that conduct of the former has been wrong; this judgment is determined chiefly by custom, that is, by the prevailing public opinion of that which is permitted and not permitted, right and wrong; and therefore this judgment is designated, namely, a "customary" or "moral" (from *mos*) one, and might be designated also as ethical (with short *e*, from *ἔθος*, custom, habit); (b) an impulse to injure the other, even as he has injured us. On the former side, the reaction has the quality of punishment and of punitive righteousness (of the restoration of the idea of the right by the actual disclaiming of the wrong by him who has done the wrong); on the other side, it has the quality of revenge, that is, of a fresh injustice, of a fresh action conflicting with that which custom has established as right and permitted. In the blood-vengeance of savage nations both still coalesce (hence the endlessness of bloody tribal feuds, where murder incurs a murder of revenge, and every murder of revenge again a fresh murder). With more civilised nations the State and the Legislature have sanctioned blood-vengeance, but at the same time pointed to definite fixed limits (*e.g.* Num. xxxv.); with the yet more civilised the State has entirely taken into its own hand the former moment, that of punitive justice, and absolutely interdicted vengeance as a private act. The possibility of this fact already proves to us that that first moment, the moral judgment, possesses an independent reality; if this were not the case, the same would not be separable from the impulse of vindictiveness. Vengeance itself underlies the moral judgment just as much as the act to be avenged.

§ 15. *The Evil Conscience.*

This is confirmed to us when we consider the act, condemned by the moral judgment, not only under the point

of view of the mutual relation of men to one another, but also under the point of view of its relation to its author and to his inner nature. Not merely does the mouth of the stranger, not merely does that of him that has been immediately concerned and injured by the act, condemn the act of injustice, but the very soul of him who has committed it, feels itself after the commission in a state of unpleasant sensation, transposed into an inner unrest (independent of the fear of casual evil consequences), an unrest which plainly shows that the act has been not merely an interference with the wellbeing of another, but also an outrage against the doer's own innermost being, and against an essential law of this inner being. Even the rudest savage, who has relieved himself of a hard, cruel father by parricide, feels himself miserable and unhappy. We are wont to name this the evil conscience. (The phenomenon, that through an atheistical system this agitation of the evil conscience may be killed and brought to silence, and that there are consequently hardened murderers who remain cold as ice, as little forms an instance against it, as the fact that the insane and delirious sometimes eat their own dirt, forms a proof against the existence of nerves of taste and smell. Even the moral judgment designates such obdurate murderers as "inhuman wretches.") But absolutely, it is not merely the fear of casual evil consequences of his deed which makes the doer unrestful; else, whence the phenomenon, that criminals that have remained undiscovered have, from unrest of conscience, even voluntarily denounced themselves? This unrest, moreover, does not at all arise merely after such acts which are committed against another man, but also after actions, in which the doer was alone with himself, or with himself and his lower nature, after sins of secret impurity, after cruelty committed against animals, nay, after mere passionate affections of the soul. Whoever has only indulged in thoughts of hate, of envy, of vindictiveness, of impure passion, finds himself thereby (in proportion

as he belongs not to those "inhuman" profligates) moved out of the equilibrium of soul, he feels himself unhappy, nay, truly miserable.

Obs.—He who explains the evil conscience as the product of a self-delusion, therewith declares those "inhuman," insensible wretches, devoid of conscience, as the true spiritual nobility of mankind, and the conscientious as the rabble that has been left behind. The socialistic Commune is on the best road to this upturning of moral truth. The dilemma, however, is a keen one: either the Commune is right or there is a conscience.

§ 16. *Evil and the Ethical Law.*

We thus attain to a higher concept than that of "wrong," namely, to the concept of evil. "Wrong," we name evil, as far as it thereby encroaches in a disturbing manner into the relation between man and man; "evil," we name every deed, nay, every motion of will and desire which stands in contradiction with one's own moral judgment, with the innermost law of one's own being. Now the designation "customary" or "moral" is here no longer suitable. What is evil is not determined by convenience or public opinion or popular custom. According to the popular custom and public opinion of the ancient Greeks, pederasty was positively prevalent as permitted, and notwithstanding there was roused among the better, the more serious Greeks, a consciousness which reared up against this public opinion; Plato himself, who in general speaks rather lightly of pederasty (so that, for example, in his speeches youths address one another as *φίλα παιδικά*), and who in the Symposium (p. 190) even defends the same with a philosophic myth (especially chap. xvi.), yet in the same Symposium (xxxiv. 218 f.) extols it as a *σωφροσύνη καὶ ἀνδρία* of Socrates, that he has committed nothing of the kind with the young, beautiful Alcibiades. And in the Clouds of Aristophanes the *δίκαιος λόγος* laments the corruption that has gained ground in this respect,

and extols the chastity of the old time. And yet it is more remarkable that this moral judgment, where it appears to have been entirely lost, nevertheless only slumbers, and admits of being awaked all at once through a simple word of reproving testimony. Assassination by poisoned arrow was current among the Indians of America as permitted, even praiseworthy; polygamy, human sacrifice, cannibalism, are with many negro tribes and other savage peoples public morals; and, nevertheless, in the domain of heathen mission, experience teaches us by hundreds of established cases, that conscience in the rudest savage is able to awake an earnest and repeated testimony: "These are abominations," so that with tears they confess themselves as reprobate, unspeakably miserable creatures. Therewith is proved that in every man (for the as yet slumbering of the conscience in such and such a one does not prove the inability to awake again),—that, I say, in every man, even in the most sunken, there exists in the lowest depths of his heart a law, which condemns evil as evil, not because it contradicts custom, but because it contradicts the innermost, true nature of man. Now this state of the soul as such, the Greek language denotes by the word *ἦθος*, and hence the sciences of philosophy and theology name this law in man the ethical law.

§ 17. *Origin of the Ethical Law.*

If, now, we inquire for the origin or author of this law, consequently for the cause, from which the existence of the same is to be explained, two different things are clear from the beginning: (1) That the ground and origin of the ethical law cannot be sought in convenience, or in prevailing custom and public opinion, because, as has just been shown, an appeal from custom to ethical law is possible; and (2) that its origin and source cannot lie in the will of the individual, since it raises itself, even in a condemning manner, against the will and contradicts it. Consequently there thus only remains,

that the ethical law is given with the nature and in the nature of man himself, is "innate" to man, and a something belonging to his nature, that has grown together with his existence.

Obs.—Cf. Jul. Müller, *die christl. Lehre von der Sünde*, Book I. sec. 1, chap. 1 (3rd ed. vol. i. p. 35).

§ 18. "Nature" and "Essence."

Accordingly we could say, the ethical law belongs to the nature of man. Nevertheless, this were a misleading mode of speech, for the word "nature," when referred to man, is used in two different kinds of senses. If we understand under the "nature" of man the whole essential, legitimate order of his corporeal and psychico-spiritual organism, consequently that constitution in virtue of which man is a man, and is distinguished from the animal, the existence of the ethical law, of course, belongs to the nature of man; for the ethical law is (as Jul. Müller strikingly says) "a higher truth of our nature, from which arises that ethical judgment, a profounder reflection of man upon himself." And all which opposes the ethical law, all evil, must then (according to this more primitive use of language), as opposed to nature, be designated as unnaturalness. But, secondly, with the word "nature," one can also designate corporeity as the sphere of natural necessity, in antithesis to spirit as the sphere of freedom, and then the ethical law has nothing to do with nature. For it does not act in the way of natural necessity and under the category of causality, so that the condition of the coming of evil into existence was prevented and that of good infallibly produced by the moral law, perhaps, as the circulation of the blood is carried on by the pulsation of the heart, and the acidification of the blood through the process of breathing; evil, however, is only condemned, but not prevented by the ethical law. Thereby that mysterious power, which we designate as ethical law, is completely distinguished from every mere natural power. Now in order to avoid misunderstanding, we will henceforth

constantly designate nature in the first, the higher sense, with the expression: "the essence [das Wesen] of man," and refer the expression "nature" [Natur] to nature in the narrower and lower sense—nature in antithesis to spirit.

§ 19. *Necessity and Obligation.*

That necessity, which is expressed in the ethical law, is indeed no natural necessity, that is, not one inevitably producing the result in the way of the causal-nexus, but an ethical necessity, not a must but an ought, not a cause which acts—be it without design or with design—upon a life-function, but a demand which is addressed to the will of man, to the self-determination. There already lies in the concept of self-determination, that it is determined not through that law, but determines itself, consequently is able to determine itself, either according to the demand of the law or in contradiction with the same. Consequently there is thus in man a consciousness of that ethical law, and besides, a power of self-determination.

Obs.—Cf. Jul. Müller, p. 36.

§ 20. *The Ethical Law, no Law of Nature.*

Since the ethical law does not act within the sphere of nature and natural necessity, and not under the category of causality, so it further follows, that its origin cannot even be sought within nature and natural law. The unconscious life of nature, elapsing under the category of causality acting inevitably, cannot be the author of the existence of an ethical law in man. A being, which is so organized, that it, as self-conscious and self-determining, distinguishing good and evil, raises itself above the entire sphere of natural necessity, cannot exactly owe its existence and its being so organized to this natural necessity. From the complex of those laws, in virtue of which, through a quantity of heat, by which 1 kilogram

of water is brought to boiling, $\frac{421}{p}$ kilogrs. can be moved the distance of p meters (the well-known law of the equivalence of forces), or in virtue of which 2 parts by weight of hydrogen combine with 16 parts by weight of oxygen in water, and 1 volume of oxygen with 4 volumes of nitrogen in atmospheric air,—from these laws of nature, the ethical law, which addresses itself to our freedom, cannot have been developed. Here indeed we are immediately referred to a third, a higher power, which stands above nature, just as above the sphere of individual self-consciousness and will, and which, (a) in antithesis to the arbitrariness of human self-determination, is one inwardly necessary, since it has for its peculiar contents ethical necessity, that is, that demanded by the ethical law, and which, (b) in antithesis to the unconscious natural necessity of natural law, is intellectually free, self-conscious, and only thereby that it is both, is it able to be the authoress of the entire sphere of self-conscious self-determination.

§ 21. *Insufficiency of the Development up to the Present.*

All that has hitherto been developed is undeniable, but still it avails nothing. In order to proceed in a well-grounded manner, we do not as yet immediately proceed farther from this point. That which was said in § 14–20 will convince every one, who not only has but also acknowledges a conscience. But there are also other people. We are not permitted to leave out of notice, that there are theorems, which directly deny the freedom of man, explain self-determination as mere appearance, self-consciousness as a function of the brain, and do not concede the existence of a spirit in distinction from nature. For such our development up to the present is not yet convincing, and it cannot be. We must consider, that we have hitherto proceeded from a single point seized, as it were, from among the facts of consciousness, namely, the existence of an ethical law in man, have operated with the concepts: consciousness, self-consciousness, self-

determination, nature, spirit, and so forth, as with well-known quantities, and have built hereon our conclusions. If these conclusions are to lay claim to scientific security and certainty, we must not allow ourselves to be vexed with the trouble of breaking open a seeming circuitous path, nay, a long circuitous path, and to consider *ab ovo* the collective facts of consciousness, nay, the condition of the coming into existence of a conscience in man. This apparently circuitous path—not in seven but in seventy-nine paragraphs—will of itself lead us back again, in its own time, to the ethical law, whose nature we will then recognise with greater clearness and certainty.

CHAPTER II.—THE FACTS OF CONSCIOUSNESS.

§ 22. *Point of Departure.*

There are indisputably existent to every man two facts: (*a*) that he finds himself in a world given to him, which has been already existing before him, and as a part of the same; and (*β*) that he is able to make this world the object of his cognition, while he in perceiving¹ and cognizing, appropriates it, and consequently makes it the contents of himself. Man is in the world, and man receives the world into himself. The former takes place also with the stone and the plant, the latter not, not even, in the proper sense, with the animal. For the animal is indeed able to perceive single objects, but not to comprehend in thought these objects and their laws. Now as far as man is in the world, that he appropriates it—and indeed in its entirety and with its laws—and makes it the object, of which he is conscious, has he knowledge of the external world.

¹ “*Warnehmen*,” from the same root as “*gewaren*,” the Old High German root *wara*, attention, which is related to the Greek *ὁρᾶν*, has a short *a*, and with the root *wâr*, true, *verus*, has nothing to do.

A. KNOWLEDGE OF THE EXTERNAL WORLD.

(a) MAN A PART OF THE WORLD.

§ 23. *Sensation and Perception.*

In our knowledge of the external world are consequently contained two moments: that we stand objectively in relation to the universe as a part thereof, and: that we perceive this world and our relation to it subjectively, *i.e.* are conscious of it. In reality both moments are not exclusive of one another. As soon as the new-born child begins to breathe, it begins also to perceive the surrounding world as another thing, foreign to it; it "whines" or rather utters a cry, which is no cry of joy, but a cry of pain, when the contact of the unaccustomed air makes upon it the impression of disagreeableness. This is analogous with the cry of thirst or with the feeling of actual pain. Herewith the child—and it is analogous also with adults in every case of sensational pain—is not as yet conscious of its body as a part of itself, or of a something identical with it, but still as a something foreign. It is that which feels the pain, and its body is that which excites its pain. It is the nerves, which in their general nature are still active here. The optic nerve, the auditory nerve, the nerve of touch, here still act essentially alike; he, who puts his hand into a flame, has not the perception of warmth, but feels a stinging sensation of pain; he has a moderately similar pain, who exposes his hand to a very intense cold, or whose eye is injured through a puncture, or who has an ulcer, an inflammation in the finger. There can be a "burning pain" in the most diverse parts of the body, that is, in the most diverse nerves; just as there can occur a "stinging pain," "a shivering," "an itching," etc., in the most different organs, that is, in their nerves. Hence these mere feelings of pain as yet give us absolutely no knowledge of the constitution of the external world. But now different groups of nerves are

provided with different organs of perception; the nerves of touch have at their ends branching into the skin an apparatus of touch; both optic nerves have at their ends ramifying into the retina an apparatus, which acts receptively towards the impressions of light and colour, and in front of the retina they have a camera obscura: the eyeball, collecting and arranging the incident optic effects. Analogously have the nerves of hearing their apparatus for oscillations of sound in the cochlea and in the cortical fibres, and in the sound-board of the tympanum stretched tightly before them. Similarly the nerves of smell and nerves of taste. These nerves report to the centre of consciousness definite perceptions of light, colour, sound, tone, extension, hardness, smoothness, smell, taste, etc., and by means of these there is made known to us the constitution of things or parts of the world to be found without us, and we are conscious of them, when they enter into relation to us by means of the nerve-apparatus. This subjective consciousness of the world would not be effected within me, if, between the world and me, there were not existent that objective relation, which is mediated by the intervention of the nerve - apparatus. And, again, I could predicate nothing, and know nothing, of this objective relation, if I were not subjectively conscious of it. (A stone is also a part of the world, and is, just as well as we, struck by rays of light, heat, and sound—let one think of a rock which forms an echo!—but the stone knows nothing of this, that there is a world and it is a part of the same.)

§ 24. *The perceiving Subject.*

What is that in us which is conscious of the world,—whether a material central organ? whether an immaterial ego? This question we leave for the present as yet entirely uninvestigated, since the concepts of the material and the immaterial have hitherto not yet been submitted to us. We wish to designate that unknown something in us, in the mean-

time, as the subject (subjectum, that which is subjected to the influences of the external world). Let us only keep more closely in our eye, for the present, both the moments, which we know: the objective existence of the world, and our subjective consciousness of the world. When the subject by means of its senses perceives the effects of the waves of light, sound, and heat, and other physical influences, coming to it from without, it draws the immediate inference from the effect to an efficient cause, consequently supposes a something, an existence, which produces these effects perceived by it. (For example, from the excitation in the eye of the sensation of red colour, it infers the existence of a body causing this sensation, and ascribes to this the quality of "being red.") Consequently it infers a complex of things or objects, and just designates this complex as the "external world" or "world" simply, and ascribes to this a being.

§ 25. *Perception, gradual.*

The process of the perception of the external world is, however, a gradual one. The subject must first learn to make use of its organs of sense. The little child, as is well known, still catches at the moon; it has as yet no knowledge of distances. The sense of touch permits us to perceive objects as existing in three dimensions; to the sense of sight they project themselves on a plain surface of two dimensions; the subject, through repeated observation and comparison of the declarations of both senses, first gradually gains the capacity and readiness to perceive distances also with the eye (in which, as you know, stereoscopic seeing with the two eyes co-operates advantageously).

§ 26. *Perceiving and the existing Object.*

The inference from the subjective sensation of light or colour to an objective thing, which causes this sensation,

finds its confirmation therein, that in the direction whence the impression of colour comes, the sense of touch also now actually finds a thing, and indeed one of similar form. (My eye has the sensation of a brilliant whiteness, of a roundness, being before it, and my hand groping thither, where the eye is focused, feels a smooth, hard, globular-shaped body, perhaps a billiard-ball. Finally, my auditory nerve also perceives a blow upon this body.) Now whilst the experience is thus made, that from one and the same point of the external world effects of different kinds, which, however, do not contradict one another, go forth to our different senses, so we ascribe this plurality of effects to one, to an efficient cause, and consider this one, this efficient cause, as one, a definite thing. And since, on closer examination, almost all visible things become manifest to the sense of touch as resisting, so we ascribe to them "substantiality," "materiality," that is, impenetrability. Now since this resistance takes place not only with rigid, but also with fluid bodies, and till a certain degree even with the gaseous, and since, moreover, we perceive that one and the same body can pass over into those three different aggregate states (for example, ice, water, vapour—crystallized quicksilver, fluid quicksilver, vaporous quicksilver), so substantiality is wont to be ascribed not only to rigid, but also to fluid and gaseous bodies. As long as this is apprehended as a quality, and under this quality nothing else is understood than the power to act simultaneously upon different organs of sense (that is, to be visible, tangible, and eventually also audible), so there is nothing, on the contrary, to be objected. But the matter is not thus usually understood, but in general there is added, as "bearer" of the powers acting upon our organs of sense, a substance, but one existing in itself, and along with those powers; and this is a logical error. For the particular existence of a substance along with powers acting upon our organs of sense is proved by nothing, and is to be proved by nothing; we perceive absolutely only effects, and from them

we can, in a correct logical manner, infer only efficient causes, that is, powers (and indeed self-evidently not non-existing, but existing powers); but no more. The milliner's doll "substance," in which you imagine those powers adhering, is nothing but an abstraction, which remains, when we turn away from the actual effects going forth from the particular things to the organs of sense — consequently, from the efficient powers. Hence, then, arises the second, the still greater error, that we sometimes speak not only of "substances" (in the sense that every atom, every molecule were such a bearer of definite, individual powers), but, moreover, that we even now add "a matter" as an indivisible, uniform substratum, which forms the "bearer" for all the different kinds of powers and complexes of powers. Of a "matter," perception, consequently experience, says nothing at all. When we perceive a body, which glitters metallically, sounds metallically, is bell-metallic yellow, is five times as heavy as water, and so hard that it emits sparks to the steel, and from which, when it is heated in the retort, sulphur volatilizes with a residuum of iron: thus have we here perceived effects of light, of sound, of attraction, of cohesion, finally of smell, and so forth, and must logically infer an efficient cause, which is able to call forth these different effects (which, when it is struck by rays of light, gives back under strong reflection, the bell-metallic yellow belonging to these — which, when it is deprived of a point of support, is attracted by the earth five times as strongly as water, etc.), consequently a complex of powers, and indeed an existing complex of powers. But no step farther are we permitted to go. If you wish to designate such a complex of powers as "a substance," you may do so, but then remain conscious of this, that a substance is nothing else than an existing complex of powers. The assumption, that behind these powers, these efficient causes, there still lies something else, effecting nothing, without qualities, barely existing, and that the powers had no existence, but are appended to that matter,

existing without qualities, merely as accidents, is fanciful, and just as scholastic as the Romish definition of the Middle Ages, that in the transubstantiation of the earthly elements of the Lord's Supper the "accidents" only remain without the "substance."

This "substance" or "matter," without accidents, *i.e.* without qualities, *i.e.* without determination, is according to experience not only not proved, but, moreover, is a logical nonentity. An existence without qualities (that is, without effects) is a nothing. With all earnestness we must therefore firmly hold, that there is no matter, but only existing complexes of powers.

Obs.—"Since the ordering of nature is effected solely by means of powers indwelling in matter, so it were plainly nonsensical to assume a matter originally, absolutely without qualities, in which the powers have first been implanted supplementally from without," Wiegand, *Darwinism u. Naturf.* vol. ii. p. 280.—P. 487: "Matter possesses no existence in and for itself, but exists only and alone as individual forms." Now since form is just the antithesis to matter, so this means nothing else than: a matter does not at all exist. "Individualized existence is the truly real; the concept of matter, however, is only an abstraction." While I cite those expressions of Wiegand as instances for myself, I have but to remark, that the concept of individualized existence, according to the course of my investigation, only follows later (§ 65-67), and therefore for the present I have only to do with the antithesis between a so-called matter and real complexes of powers.

§ 27. *Identification of the Subject with its Body.*

Now as the subject ascribes an existence to bodily objects or things, *i.e.* to the objects of perception, so it at the same time identifies its organ of perception, the apparatus of the nerves and the body enclosing the same, with itself. For it cannot separate the nerves, reporting the perceptions to it, from itself. The subject does not indeed perceive its nerves, but it perceives by means of its nerves the external world. I do not see my eye, I do not hear my ear, but I see by means of

my eye the things around me, and hear by means of my ear the sounds and tones which they produce. But, nevertheless, the body itself again is also an object of perception. I see my hands and feet with my eye, touch with my hands my head, my eyes and ears, and one man perceives the body of another. Consequently the subject understands its body as a thing, as an object, as a corporeal object like the things of the external world, and nevertheless identifies this body with itself, at least so, that it is conscious of itself, as of a something, being in or dwelling in this body. And indeed is it—even before all anatomico-physiological investigation—conscious of itself as dwelling behind the eyes, between the ears, in the head, no doubt simply for this reason, because the collective effects of light and sound go forth in the direction towards the position to be found behind the eyes and between the ears. The real, corporeal, central organ of the body (in case there is one such) receiving the report of the senses, might choose to have its seat where it wished: nevertheless the subject of man himself endowed with five sound senses must unconditionally be conscious of the objects to be found in its field of vision—consequently opposite its eyes—as objects to be found before it, the beholder—and therefore must be conscious of itself as of one looking out at the eyes and hearing through the ears, consequently to be found behind the eyes and between the ears. The sense of touch does not here indeed come into consideration, for this reason, because the touch is a sense taking place voluntarily and only momentarily; seeing and hearing, however, are taking place involuntarily and continuously. (From the chemical senses: taste and smell, which operate singularly and subordinately, and therewith perceive no directions, this question is to be entirely separated.)

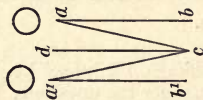
§ 28. *Space and the Knowledge of Space.*

Thus the subject is here already conscious of itself, but yet not of itself as a subject, which should stand opposed to the

sensibly-perceived as of another nature, but as of one still half-and-half identical with its body, dwelling in the body,—of itself as one being in a certain place in the world and a part of the world (of one among many things in the world). But now herewith are spontaneously given the intellectual forms of intuition, under which the subject beholds the world and is conscious of it, namely, space and time. We designate the same as “intellectual forms of intuition,” not in the sense of Kant, as if we wished to deny an objective existence to space and time. The directions in which the radiations of light, and sound, and heat arrive at our organs of sense, necessitate us rather to the conclusion that their points of departure (those “efficient causes” or “complexes of powers”) are found in the extension of space, beside, and above, and behind one another; and a scientific research, while it teaches us to know the paths of the heavenly bodies, the laws of Kepler and Newton, as upon earth the laws of crystallisation, and those of optics and acoustics, entirely confirms to us the objectivity of space and time. When, however, we say that the subject is conscious of the external world under the “intellectual intuitions of space and time,” so therewith is this only very plainly intended to be said, that space and time are not merely present objectively in the object, but that also the subject on its part possesses the capacity to perceive these formal extensions, that, in other words, a measuring in the subject corresponds to the measurable extension existing in the external world. If this were not so, we would attain to the concepts of space and time, that is, of height, breadth, depth, past, future, as little as, for example, the plant attains to these concepts. We would as little be in the condition to comprehend the Pythagorean theorem as the animal is able to comprehend the same.

Obs.—Helmholtz (*Handb. der physiolog. Optik*, p. 443) con-
founds in a singular manner the question: Whether the seeing
subject possesses an “innate intuition of space,” with the
question, different therefrom by the *toto coelo*, whether there

is found anywhere in the organ of sight a peculiar apparatus for the measurement of spatial distances. That the latter is not the case, he proves quite correctly against Lotze and Hartmann, and wherefore should even such an apparatus still be necessary, since indeed the retina suffices perfectly, upon which the image of the objects, to be found in the field of vision, portrays itself correctly in its extension, as yet breadth and height, consequently in its proportions? But with the proof, that no peculiar apparatus of measurement is found in the eye, there is, in truth, not yet proved, that in the subject there does not dwell the intellectual capacity of perceiving distinction of space! Should this fail, the subject would not even be able to be conscious of the extension of surfaces existing in the image of the retina, would not be able to perceive it. In p. 439, Helmholtz himself says: "When we see before us an object of sight, we are obliged to transpose it into some one definite position of space." Wherefore then must we do this, if we did not even bear within us the intellectual intuition of the distinction of space? If we did not bear this within us, the different colours, lines, lights, which are simultaneously portrayed alongside of one another upon the retina, would just unite in our consciousness in one, in a turbid mixed-blur, just as three tones perceived simultaneously by the ear combine in one, an accord; instead of a distinctly painted surface, we would see a single point with a mixed colour. And if we had not in our intellectual intuition of space at the same time that of three dimensions, the stimulus would fail us to progress with discernment in distances farther than the stadium of the infant that grasps at the moon. To this there is added a physiological proof. It is proved (above all by Helmholtz himself) that each of both the eyes reports its particular image to the centre (cf. the binocular vision, when you, for example, hold before the root of the nose two pencils behind one another, of which then the more distant is seen double, because the right eye sees it in another position to the nearer pencil than the left, and because the image seen by each eye is reported separately to the centre). Nevertheless, we so perceive objects habitually with our two eyes, as if we had only one eye standing at the root of the nose; we see every object *c*



in the direction *a b* parallel with *d c*, not in the direction *a c*,

a'c. This is a proof "that the blending of both the fields of view is a psychical act" (Helmholtz, pp. 771 and 607), which is consequently accomplished by the subject, not by the organ of sight. "The soul" (as Helmholtz says)—or as we, to whom the concept "soul" has not hitherto been yet submitted, wish more cautiously to say: the subject arranges even the images conveyed to it by the organ of sight in reference to their spatial relation. Thus, therefore, the subject bears in itself the intellectual intuition of space-relation. And thus Jean Paul ("Ausatz über das Verhältniss des Ich zu den Organen," im 9 Schalltag des Hesperus) was also perfectly right, when he said, the nerves are not perceiving, but perceived organs. This is only an apparent contradiction with what is said in § 27: that we do not perceive our nerves. The subject perceives not the constitution (colour, thickness, etc.) of its nerves, but it perceives the excitation in the nerves called forth by the object. Not the nerve, but the subject, perceives the same.

§ 29. *The Dimensions and the Form of being conscious of them.*

The most immediate experience teaches us, that the subject can by no means be conscious of itself otherwise than in space. We imagine ourselves as existing somewhere. With the consciousness of ourselves there is immediately given to us the consciousness of a before and behind, above and beneath, on the right and on the left, herewith, however, the consciousness of three dimensions. And this consciousness, or rather this intellectual intuition, is so immediate, that no scientific definition of "on the right" and "on the left" can positively be given (not even the empirical one: On the left is the side of man where the heart lies; for, as is well known, there are men who, in an abnormal manner, have the heart in the right half of the body, and therefore not exactly "in the right spot"). Examined in the light, above and beneath, behind and before, admit directly of being defined as little as the objective distinctions of space, but ever only of being described subjectively.

For my antipodes, that is above which for me is beneath, for those standing opposite to me, that is before which for me

is behind, and on the right which for me is on the left. But the spatial category of three dimensions is an objective one; the consciousness of above and beneath, before and behind, right and left, is the subjective form of perceiving them. There is no objective right and left, above and beneath, before and behind; these intuitive judgments are subjective judgments of the individual perceiving subject.

§ 30. *Time and Reminiscence.*

Time is in itself as objective as space. Time is the result and correlate of changes occurring in objects themselves. If there were no change, if the universe in all its parts should continue the very same, unmoved and unchanged, there would be no time, and no possibility of perceiving a distinction of time. Since, however, *πάντα ῥεῖ*, since things according to the experience of our senses are comprised in constant motion, therefore in change, so from this results the objective distinction between the point of time *a*, when things were so and so, and the points of time *b*, *c*, *d*, when they have become different. It is here again only asked: How is the subject conscious of time? I may imagine myself in a room with covered windows and white walls, where nothing moveable is present; now the room makes with the entire globe the motion of axial rotation around the earth's centre, and the second motion of the annual rotation around the sun; but I make them also along with the room. Will I then be conscious to myself of a spatial motion? Certainly not. Just quite as little would I be conscious to myself of a motion through a space of time, consequently of a change of time, if I were absolutely, inclusively in the general change, if I had not a something in me which remains unchanged and unmoved, and if I were not also conscious to myself of this unchangeable something. You might here object: There need not be in me such an unchangeable something; already thereby, that I perceived in things without myself changes of

different swiftness (of which one is the measure for the other), did I attain to the consciousness of time. I may see a brook flowing, a bird flying as quick again, the rocks on the shore standing still. Quite correct; but whence then do I know, and how will I then perceive, that these rocks remain standing, or that the bird flies quicker than the brook runs? At least only thereby, that in the moment *b*, when the bird had flown upon yon tree, I still knew that in the moment *a*, when the bird yet sat upon the shore, the same rocks also stood already there, and that further, in the moment *b*, I still knew that a rose leaf drifting on the brook has been in the moment *a* in a position which is less distantly removed from its present position than the present position of the bird from its position at that time,—by this means, therefore, that I have a remembrance of the earlier moment, consequently that I, the subject, still exist, and have remained the same (identical with myself), and therefore am I able to compare the moment *b* with the moment *a*. If the subject itself were one plainly changing, altering, if there were not in it a something remaining the same and identical with itself, we could not even attain to that comparison of changes occurring more quickly and more slowly without ourselves, consequently could not absolutely attain to the consciousness of a distinction of time, of a before and after; we would for ever always internally experience and perceive only one moment of time, and this would plainly fill us; of a before and after we would have no representation, not even of a motion, since every representation of motion includes in itself that of before and after—but also, besides, the consciousness of the subjective, the unmoved and unchanged continuance. (Upon this rests the notorious old paralogism of the “arrow,” which, however, is properly no paralogism, but only a problem, and contains the appearance of a fallacy only in this, that the continuance of the perceiving subject is taken for an objective quality in the motion of the arrow.) Thus I possess the intellectual intuition of space, when I am conscious of myself

as of one to be found in space, *πρό*, consequently as filling space. I possess, on the other hand, the intellectual intuition of time thereby, that I have in me a something which does not succumb to the change of time and to alteration, that, in other words, I am conscious of myself as one unalterably the same and identical with myself, consequently super-temporal. This something, the same with itself, is the ego.—Herewith we step out of the stadium of our cognition of the external world, and over into that of our knowledge of self. But before we are in the position to accomplish this step, we must know what the ego is according to its essence, and in order to recognise this, we must thoroughly and completely answer the second question raised in the beginning of § 23 (to which our paragraph has just now conducted us), namely, the question, How then are we conscious of the world as a part of which we find ourselves? *i.e.* How is a consciousness generally brought about, and by what causes or factors is it explained?

(b) HOW IS MAN CONSCIOUS OF THE WORLD?

§ 31. *Reminiscence, no Activity of the Brain and Nerves.*

It were from the first by no means possible, that we would be conscious of the world, if we had no reminiscence. There would then pass continually before the subject new and ever new perceptions of sense, like the images of a kaleidoscope, without that even two only of these images could at any time be compared or brought into connection with one another; the subject would every time identify itself with every such single image; one image would at any time ever constitute the entire contents of the subject, and in the next moment another image, and thus in the next moment would the subject itself be plainly another than it would have been previously. (Kant has already very well analysed this, *Critique of Pure Reason, Doctrine of Elements*, Part II. div. i. Book 1, chap. 1, sec. 2, No. 3,—but it is in vain for E. v. Hartmann, who com-

pounds consciousness from an endless series of "conscious acts" consecutively following one another.) Now they have meant to say what is intelligible of a miracle, when they assumed (as even Steinthal, *Einl. in die Psychol. und Sprachwissenschaft*, i. p. 96, § 9) reminiscence is an activity of the nervous apparatus. An impression received from this re-echoes, though in a weaker degree. By this, however, nothing at all is explained. For, without mentioning that (as Steinthal himself directly concedes in § 10) not only sense-perceptions, but also the most abstract of all, for example, mathematical or logical principles, form the contents of reminiscence, thus the question might indeed be asked at the beginning: How, then, can even the first of all impressions of sense at all become conscious? In the word "conscious" there already lies not only, that an excitation of the nerves, a galvanic current in the nerves is existent, but also a subject, which perceives this excitation, not only a perceived, but a perceiving (comp. the *Obs. and Critique of Pure Reason, Doctrine of Elements*, Part. II. div. i. Book 1, chap. 2, sec. 3, p. 116 f.). Now modern physical science, and along with it, modern empirical philosophy, moves in a wonderful circle: this perceiving, that is, consciousness, the conscious subject, is said to be brought about in this way, that a multiplicity of sense-perceptions arrive after one another in the brain, and that the homogeneous moments gradually leave behind a stronger impression than the non-homogeneous, because the former repeat themselves oftener,— $(a+t) + (a+u) + (a+v) + (a+w) = 4a + t + u + v + w$,—and that in consequence of this a homogeneous characteristic, repeated ever oftener, terminates in a "representation," and thus ever more general, more comprehensive "representations" arise, finally even that of perceiving, and that of the perceiving, consequently of the subject. Thus the subject is said to run together like cheese from pure qualities of the many perceived objects. But now the first of all among these infinitely many perceptions is indeed by no means to be apprehended, if there is not there already a perceiving, consequently a perceiving subject; if

there is nothing further there than a galvanic current in a nerve, a perception and a perceiving consciousness is thereby just as little brought about as when a galvanic current is present in a zinc wire; for out of the material of the conductor you will not, at least I hope, claim to deduce the origination of consciousness! In which, besides, it were still to be considered, that metallic wire conducts better and quicker than a nerve. (In nerves the galvanic current propagates itself in 1 sec. only 32 meters, in zinc wire thousands of miles.) But then, secondly, the co-operating of a multitude of consecutive impressions of sense (as we saw above) is not at all possible without reminiscence; reminiscence, however, is (according to § 30) only conceivable, when from the first there exists a subject continuing the same and identical with itself, which receives the consecutive impressions and perceptions, and compares them with one another. Thus consciousness is said by those "realistic philosophers" to be explained by reminiscence, whilst yet this presupposes that! We can play upon a pianoforte a hundred pieces from C major along with three pieces from F sharp minor, E major and A major; the pianoforte will not, however, on that account attain to the concept, or even only to the representation of the C major key, just because no subject inheres in the pianoforte, which were in the condition to receive, and to hold fast, and to compare the acoustic vibrations. We may expose a flower a hundred times to the sunshine; it will every time suffer the physiological influence of the same, but nevertheless it will thereby attain neither to the concept nor to the representation of the sunshine. In order that reminiscence may take place, a subject capable of being conscious is already supposed. And being conscious is not possible without such a subject, which retains and compares the perceptions of sense.

Obs.—Dav. Fr. Strauss (*alter und neuer Glaube*, p. 210) makes the sly hypothesis: As motion changes into heat, motion may also change into sensation and perception, consequently into consciousness. And if the will can move a limb, so again in a

movement (of the limb) thought may be turned in another direction. On the other hand, Huber very strikingly says (*Augsb. allg. Ztg.* 1872, No. 330): "A sensation, a perception addresses, it announces, but whom then does it address, unless the subjectivity, which already exists?" Huber further makes good the striking counter-argument, that, if thought would be set in a different direction in a movement, thought indeed would have forthwith to cease as soon as the movement begins, whilst nevertheless thought and will in the execution—the thought also after the same—still continue. That even Du Bois-Reymond is of our view, see § 59, *Obs.* 1.

§ 32. *Disjunction of the resembling or Formation of the Concept.*

Whilst the subject retains different consecutive sense-perceptions (with Kant, "apprehensions"), representations are formed (with Kant, "reproductions"), which are independent of the sense-perceptions, and while different representations are held together, those representations enter into association which contain resembling qualities or marks. The child sees its mother sit, then it sees the same walk, then knit, spin, then it hears her speak, then sing. The total complex of the perception is every time a different one; the mother appears in different positions, movements, perhaps also in different dress; but the lineaments of the form, and above all of the face, remain the same. Thus now even the little child separates the constant from the variable, the essential from the non-essential, and very early learns to know father and mother, even a varying apparel does not make it err. There is the capacity to separate the like from the unlike, or the capacity of disjunction, which dwells in the subject. But now this capacity is by no means explained by an activity of the nerves, since it is something purely intellectual, logical. For in it the point in question is the recognition of the like; but now likeness is no quality inherent in the thing, which could be sensibly perceived. I see before me two corresponding dice of the same material and of the same colour: *A* and *B*. Now the resemblance is no quality of *A* and no quality of *B*; for when *A* alone exists and *B* not, *A* is still

not like *B*; and when *B* now steps into existence, *A* is not thereby changed, and becomes participant of no new quality. The resemblance is consequently no quality, but it is a relation. Those two dice are not objectively "like," but objectively *A* is two inches high, long, and broad, and of white maple-wood, and *B* is two inches high, long, and broad, and of white maple-wood—each alone is what it is. That both dice are like one another is, in consequence of this, a judgment which the subject pronounces. (See *Obs.* 1.) Therewith the concept of likeness arises, consequently, along with the two objects of which the likeness is predicated, there is necessary a third, a subject, which first contemplates the object *A* and examines into its qualities, and then contemplates the object *B* and examines into its qualities (for even supposing that both objects are perceived simultaneously beside one another, nevertheless the observing reflection can ever only be directed to one of the same). There is thus necessarily a subject, which, during different consecutive perceptions, in itself remains the one and the same, remains identical with itself. Thus we see resemblance is a determinateness of the subject, a category, which the subject bears in itself as one belonging to its nature, and which it brings along with it to the perception and contemplation of objects, and in virtue of which it is able to compare the objects, and to abstract, to disjoin the resembling in them. The capacity of disjunction is consequently explained only from the relation of the perceiving subject, continuing itself the same, to the relatively the same, and the relatively different objects of perception. The subject, because it remains identical with itself, searches also in the perceived objects for the same and the invariable, and has an interest therefor. "It brings with it" (as Steinthal correctly says) "to the contemplation of objects the category of real unity." And in the same way as it learns to know individuals as constant units, it also learns to know species (with Kant, "recognition"), consequently concepts. It sees after one another different horses, black, white, brown. But

it distinguishes soon the essential qualities from the accidental, and so comes through distinction or "disjunction" to the logical subject-concept, horse (see *Obs.* 2), analogously with the concepts, dog, tree, table, etc. And thereby we perceive that the (human) subject comes earlier to the concept of genus than that of species, learns earlier to comprehend the general marks of the concept tree than the distinguishing marks of apple-trees, pear-trees, limes, oaks, etc. A plain proof that the more abstract is not formed gradually, step by step, in an empirical way from the concrete impressions of sense, but that the subjective faculty of disjunction and abstraction is directly active in the beginning with full power.

Obs. 1. With the great importance which this entire deduction has, we must take notice of an apparent objection which may be made against its point of departure. You could object, "A single object certainly never has along with its other qualities that of likeness; but to a plurality of objects (for example, a dual number) can indeed rightly belong likeness as an objective quality. Those two dice above described, *A* and *B*, are actually objectively like one another."—Quite excellent. This expression, "Both the dice are in objective reality like one another," is a perfectly correct statement of the subject comparing them, but no more! This proposition expresses something quite correct, what the subject in the die *A* and in the die *B* has observed in respect to the relation of their reciprocal qualities; but it never expresses a quality of both dice. For if the die *A* as such has in itself, confessedly along with other qualities, not even that of "likeness" ("a similar die" were, in truth, nonsense!), and if likewise the die *B* has not in itself this quality, so neither have this quality. The proposition, "Both the dice are like," does not therefore express a quality which belongs as well to *A* as to *B*, but a judgment of the subject concerning the relation of their mutual qualities. I sensibly perceive in *A* and also in *B* the qualities of white maple-wood colour, and of two inches cubic measure; that I see in *B* the same colour and the same measure, which I have perceived in *B*, is a subjective judgment, which only becomes possible thereby, that I, the judging subject, in the perception, observation, and measurement of *B*, am still the same subject, and therefore still mindful of the perception, observation, and measurement of *A*.—And even in the form of the above

statement this expresses itself. "Both the dice are like one another." The grammatical subject¹ already contains the concept "dice," and every sentence whose grammatical subject is a plural, contains unconditionally a concept already formed. For the individual, the single object of perception, exists as such only in the singular; where a plural is used, there several individuals are subsumed under a conceptual unity. But that a concept is the resultant of the disjoining and associating activity of the subject, this is clear. In objective reality the die *A* has its existence in itself and for itself, and equally so the die *B*; in my subjective judgment, however, I subsume both these objects of perception under the concept "dice," because I have seen in both the cubic form, and say, "Both the dice." Thus also it is proved from this side that the proposition, "Both the dice are like," is a subjective judgment concerning a relation of the objective qualities of die *A* and die *B*.

Obs. 2.—Steinthal (*Einl. in die Psychol. u. Sprachwissenschaft*), who on many points has cast a correct glance, unfortunately does homage to the new fashion, naming that "representation," what the entire thinking humanity hitherto named "concept" (*notio, ἰδέα*). What pernicious confusion arises through this exchanging of concept with representation, his own deduction furnishes directly the most frightful voucher therefor. The designation "concept" he wishes to see reserved, namely, for that which we, in a rational and logical manner, name a "judgment," in truth, even for a scientifically established judgment! He asserts, if a mother warn her child against the torture of animals with the words: "The animal feels (as you do pain)," this is a "representation;" if, however, a natural philosopher and physiologist say: "The animal feels," this is a "concept." Both, however, are not "concepts," to say nothing of representations, but judgments; and if the judgment in the empirical daily experience of the common man is established or proved in the way of exact observation, it makes no difference at all for the logical quality of the same, but, at the most, for the correctness of the contents. If an insane person say he has a living mouse sticking in his skull, "mouse," "living," "skull" are logical concepts, the judgment also is false. Then, too, if a modern naturalist say: "The animal is not essentially to be distinguished from man," or if an old woman say: "This animal is bewitched," then also is "animal" both times a con-

¹ With painful exactness—in order not to fall into incurable error—we have to distinguish the grammatico-logical concept of the "subject of the sentence" (subject in "the judgment," *e.g.*, the table is round) from our philosophic concept of "subject" (which perceives, compares, etc.).

cept, though both predicated statements are really false. Even the old woman, when she says not "this calf," but "this animal," subsumes, therefore, the genus under the more comprehensive concept of animality, and indeed the little child, as soon as it once begins to speak of "animals," proves therewith, that it has separated from the characteristics of cats, dogs, horses, birds, gnats, etc., in the manner of the disjunctive activity, all the characteristics common to these beings, and has united them in the concept "animal." Whether this disjunction and synthesis is a complete or incomplete one, the scientific limits of the concept is thereby distinguished from the popular. A peasant will even name a whale a fish, what a naturalist will not do. From this follows that the scientific concept of a fish is another than the common one, but never that the latter were not also a concept. For otherwise the scientific concept would partly also be no concept. For a long time zoologists have reckoned crabs as insects; only in modern time is instituted the particular class of Crustacea. The scientific concept of insect was consequently wider before than now; it was, therefore, yet a concept. Just as the common concept of a fish is wider than the scientific one; it is for all that a concept. If Steinthal were right, Euclid would still have had no "concept" of a triangle; for he asserts (i. 32) in "every triangle" the sum of the three angles is equal to two right angles, whilst, nevertheless, every polytechnicist now knows a triangle with three right angles. Since the invention of spherical trigonometry the concept of the triangle has become a wider one; the narrower one of Euclid was, therefore, yet a concept.—In opposition to that confusion we hold firmly: Every synthesis of the common characteristics of a plurality of separate representations abstracted disjunctively is a concept.

§ 33. *Synthesis.*

With the faculty of disjunction goes hand in hand from the beginning the faculty of synthesis or conception (summation). Thus, as that forms the logical grammatico-subject-concept, so this forms the (logical) predicate-concept. The child hears its mother singing, and hears the nursemaid singing. Here again the similar in the diverse strikes it. It now hears a boy singing upon the street, and says: "Boy singing." It predicates singing of a third grammatical subject. Analogous are the judgments: the snow is white, the

raiment is white. Herewith that, which we in the language of logic name a judgment, is formed.

Obs.—We have for the present to occupy ourselves only with the facts of our, of the human, consciousness. The question in how far to the animal also belongs a certain kind of consciousness (namely, of world-consciousness), does not as yet here concern us anything, but comes to be dealt with later. Instead, the notice may here, in the meantime, suffice, that animals attain only to the recognition of individuals (living and lifeless single objects; *e.g.* gentlemen, stable, nest, and such like), not to the formation of concepts, and have, therefore, only “remembrance,” not “memory” (cf. the striking proof hereon by Steinthal, *l.c.* § 426–474). These *συναίρεσις* of a consciousness with animals do not admit of being explained from a “mechanism” of mere nerve-activity, but presuppose a subject (a “soul”), which stands related to the change of consecutive impressions of sense, as one identical with itself, abiding (though only relatively abiding)—as a *μονάς*, when it does not even know itself as a *μονάς*. The particulars later, § 71, 72.

§ 34. *The Category of Inherence and the Judgment.*

With the formation of the predicate-concept the completion of the logical judgment is immediately given. To the predicate-concept, “red,” I have only just come thereby, that I have perceived a plurality of objects, of each of which the fact: “N. is red,” had sensibly presented itself to me. Now as soon as I have through synthesis of these series of representations produced the predicate-concept, “red,” I may predicate it of each of those single grammatical subjects. Predicate-concepts of a verbal kind, as “singing,” “going,” “sitting,” and the like, are analogous. But this is nothing else than the category of inherence, as Aristotelians name it (*ποιότης* with Aristotle designates also something else than a category of quality), *i.e.* of the belonging together of a (be it essential, be it accidental) quality with an object of my intuition or representation (a grammatical subject on my assertion).—With the formation of the grammatical subject-concept (the substantive-concept) there is just as immediately

given the category of extension (or of the so-called quantity): totality and unity. For to every substantive-concept I have just attained, only in this way, that I recognised a series of objects of my intuition as relatively homogeneous, and have summarized them in a concept of unity. To this concept of unity corresponds the totality of individuals, which constitute the extension of this concept. The concept of totality is therefore nothing else than that of a multiplicity of individuals summarized in a concept of unity. For example: those objects, which have feathers, a pair of wings, a beak, and a pair of feet, I summarize under the concept "bird;" immediately results the concept of totality. For the definition forming and constituting that concept runs: "All objects of perception, which have feathers, a beak, a pair of wings, and a pair of feet, are birds," and even this nuncupative definition veers round to the general judgment: "All birds have feathers, a beak, a pair of wings, and a pair of feet."—The distinction between the essential (generic) and the accidental qualities leads then of itself to the concept of "plurality." "Many birds have red feathers; all birds have feathers," and hereby to the concept of species and of specific qualities, *e.g.*, "many birds have webs; all birds with webs we name aquatic birds; all aquatic birds have webs."—The concept of totality is therefore by no means one given empirically, coming to us through sense-perception, but one belonging to the subject as such, taking place with the formation of the concept. In objective nature every individual bird actually has feathers and a beak, etc.; but no man exists who could ever have seen with his eyes all birds (even all existing only in the present, not to mention also the past and future). And could he have seen them together, he could not even have been able to attain certainty thereon, whether these then are actually all, and whether none fail. The subject comes absolutely to the concept of totality, to the category of the so-called quantity, or better of extension, only through the indwelling faculty of disjunction and of synthesis, that of

concept-forming, whose deepest root, as we saw, is that of the subject remaining identical with itself, the self-equality of the ego. I cannot at all pronounce the word "all," without at least supplying in my mind a substantive-concept. And when I say "all" quite neutrally and generally, I tacitly think either "all existing" or "all conceivable." I consequently supply mentally one of both the substantive-concepts: existence or conceivableness.

Obs.—As the art of correct logical thinking has been lost even to many of our most able naturalists and physicists, Helmholtz, in his *Handbook of Physiological Optics*, p. 447, furnishes, after the precedence of Stuart Mill, an interesting example. He there writes: "In the syllogism: All men are mortal, Caius is a man, therefore Caius is mortal, the major-premiss is only true if the conclusion is true. If Caius is not mortal, not even are all men mortal. The proof consequently is worth nothing. You conclude: Most men are mortal, therefore Caius, of course, will also be." With this deliverance Helmholtz claims to prove, that the inductive proof is the only real proof. But how singular and strange even from the beginning is this confounding of concepts: "conclusion" and "proof"! As if all kinds of syllogistic inference would have to be employed for proofs, and entirely for natural history!! It is true, but not new,¹ that in the philosophy of nature the method of induction is entirely in its right place, and that the so-called "quantitative syllogism" suffers no application in the discovery and detection of natural laws. He, who wishes only to discover a natural law, must proceed from single observations, consequently from sensible perceptions, and must collect and compare such observations, and is not permitted to place a general proposition in the air and to wish to draw hence inferences to the particular. He is not permitted *e.g.* to lay down the proposition *à priori*: All snakes lay eggs, but must observe whether all snakes lay eggs, and thence he will then find that there are snakes which bring forth their young alive. So far therefore we are agreed with Helmholtz. But how does it ever follow from this, that the logical inference from the totality to the individual were in general false or unauthorized? Even in the philosophy of nature, as soon as the point in question is not the discovery of laws, but the application of those already discovered, that

¹ Aristot. *Phys.* i. 1: "Ἔστι δὲ ἡμῖν τὸ πρῶτον ὁλόκα καὶ σαφὴ τὰ συγκεχυμένα μᾶλλον (empirical phenomena in its complexity) ὕστερον δὲ ἐκ τούτων γένηται γνώριμα τὰ στοιχεῖα καὶ αἱ ἀρχαί, διαίρουται ταῦτα."

inference is indispensable. *E.g.*, in physics, the concept of the spherical-convex lens (in antithesis to the parabolic) is fixed, and—*nota bene*, not by inductive proof, but by mathematical computation!!—it is proved, that the former refracts the parallel rays not exactly at one point, but disperses them over the so-called focal space. When, now, Helmholtz employs a spherical convex lens in any optical experiment, he, without doubt, will not draw the conclusion: "With all spherical-convex lenses a dispersion of the rays takes place; this lens is spherical-convex, consequently no dispersion of the rays here takes place," but the converse: "Since with all lenses of this kind a dispersion of the rays over the focal space takes place, so this will necessarily have to be the case also with this lens; I will therefore be necessitated to reduce to a minimum that disturbing circumstance through blinding of its peripheral part." Certainly this is no false, also no superfluous syllogistic inference. Or when in zoology, the concept of fish is fixed as of a spawning animal, the naturalist, who has before him an animal of the class cetaceous, will, with perfect right, draw the conclusion: "All fish spawn; if this were a fish, it would also spawn; but now, since it has teats and bears young in the womb, so is it no fish in the sense of physical science, but a cetacea." The inference from the totality to the individual is just a logical, unconditional, necessary one; totality, according to its concept, embraces all the units, otherwise it would not be totality. What degree of confusion belongs to the misapprehending of this simple truth!—Hartmann (*Phil. des Unbew.* vii. p. 241) also repeats that diatribe of Mill and Helmholtz, but yet in a cautious manner adds the limitation, that the syllogism only just "teaches nothing new,"—that it is analytic, not synthetic, what of course is a long-known truth.

§ 35. *Negative Judgments.*

That which we designate, since Kant, as the "category of quality:" position, negation, and limitation, is, in truth, nothing else at all than the very category of the extension of the concept (or of the so-called quantity), with which we have just now become acquainted. The relation of "quality" is quite unsuitable, since in truth existence or non-existence are no qualities. The limited judgment is only a transformation of the particular judgment. The proposition: "Many birds have webs," is directly synonymous with the proposition: "Some birds have not webs." The concept

of plurality includes in itself the negation of totality. I may name a predicate which does not essentially belong to the concept of genus, and consequently may exist or not exist. Hence follows immediately the possibility of the individual negative judgment: "This bird has no webs, has no red feathers, has no curved beak," etc. It has not all this, and is nevertheless a bird, because even these qualities are not essential for the concept bird. But, thirdly, there can also be expressed a general judgment in a negative form. Instead of: "All fish breathe by gills," I can say: "No fish breathes by lungs" (= "All fish breathe by not-lungs, by organs different from lungs"). In this general negative judgment, the negation inhering in the word "no" refers, therefore, to the predicate-concept.

Obs.—From this is to be distinguished not the logical, but the mathematical use of the word "no" in the sense of zero times. You can picture to yourself a series, as the following: "Three inches, two inches, one inch, no inches, minus one inch, minus two inches," etc. Here "no inches" is as much as zero inches. Upon the misapprehension of this distinction rests the droll paralogism: "no cat has two tails; a cat has one tail more than no cat; consequently one cat has three tails." The major-premiss is a general negative judgment; in the minor-premiss, on the other hand, "no" is used in the mathematical sense of zero times. In the major-premiss the quality of the predicate-concept is denied, in the minor-premiss the quantity of the subject-concept.

§ 36. *The Category of Causality.*

The category of extension refers solely to the inherence of the quality in the object (of the predicate in the grammatical subject), and is (in both its forms: the Kantian "quantity" and the Kantian "quality") nothing else than the exposition of the category of inherence. But we are able to recognise still far more in the objects of the external world than their inherent qualities; we are able to do more than to form generic concepts, to classify genera and species, to subsume individuals under species, and species under genera. The

qualities of the objects themselves are not quiescent, but active. If concept-forming only be incumbent on us, we consider, *e.g.*, the specific gravity as a quiescent quality; we say: "Lead is heavy," and where we find a soft, lead-grey metal, which is ten to eleven times as heavy as water, there we subsume under the concept lead. But now we ask further what then is called "heavy"? The sensation of weight is given to us through sense-perception; it is the sensation, which is bound up with the more strained muscular activity, to which we are necessitated, in order not to let fall from our hand the piece of lead. In the first place we have only this sensation as such, and we would by no means even come out beyond this immediate sensation, if the question did not occur to us, the subjects: "Whence then comes this sensation?" We inquire for a cause. We by no means take this concept of cause from sense-perception; our senses furnish to us only the individual, incoherent phenomena, entirely the same which they also furnish to animals. In order to catch a bear, you employ among other means the following: In a spacious knot-hole of the trunk of a tree you put honey, and so hang a heavy iron hammer by a long cord on the tree that the hammer is suspended directly before the knot-hole. The bear scents the honey, clambers up, and gives to the obstructive hammer a powerful blow, that the same makes a pendulous motion in the air. But the hammer falls back directly upon the head of the bear. Angry, he gives to it a yet more savage blow, and with augmented force the hammer falls back, and so this goes on until the bear tumbles down stunned. The single sensations of impact he has felt after one another, but it has not occurred to him—in spite of Darwin—to search for the cause. The man, on the other hand, from whose hand a leaden weight falls, while he is able to hold just as large a piece of cork without weariness, inquires for the cause and searches for it. He bears in himself the category of causality, this logical formal concept. It is pure silliness to assert, that from the frequent *post hoc* the repre-

sensation of the *propter hoc* or *per hoc* is formed (what Kant himself assumed). "Cause" is not even a representation, but a concept, and indeed a wholly abstract formal concept, which has nothing in common with consecutive succession, but goes out far beyond that, it is the concept of efficiency. That we are accustomed to translate badly enough *causa et effectus* by "cause and sequence" (instead of by "cause and effect"), we need not let ourselves thereby be deceived; under this "sequence" temporal succession is indeed not understood, but just the effect. When the lead, which I hold in my hand, makes (effectuates) in me the sensation of weight, so here a temporal succession by no means takes place, just as little as when the water of the river, in which I bathe myself, makes in me the sensation of coolness. Cause and effect are both times entirely simultaneous; indeed with the river-bath, the cause lasts longer than the effect (for as soon as I have accustomed myself to the temperature of the water, the impression of deterrent coolness ceases. Even so the blinding effect of a clear illumination into which I had stepped out of a dark place). On the other hand, a child may daily experience it, that in the morning it becomes clear, and that then the post-messenger enters and brings the newspaper, without the child being thereby misled to the delusion that the entrance of the post-messenger is caused by the clearness. We, indeed, would by no means be in the position even to express only a proposition like this: "The entrance of the post-messenger into the room follows on the dawn of day, but is not effectuated thereby (but by the regulation of the railway train)," if cause and temporal succession were intelligibly identical! Nevertheless, I cannot place an identical in antithesis; I cannot, however, say: "P. is not *a*, but *a*!" When I think or say: "The lightning is the cause of the thunder," I think or say something essentially different than when I say: "To the lightning succeeds the thunder;" the latter every savage can say; in the former, on the other hand, I express a known truth of physical science concerning the

electric spark as originating a wave of sound, which adds to that empirical perception of succession something entirely different and new. The law of causality is objectively present in things, in nature, but it would never be recognised by the subject, if the subject did not bear in itself the formal concept of causality.

§ 37. *The Category of Conditionality.*

Just as with the concept of causality is it circumstanced with that of conditionality. When Kant, along with inherence and "dependence" (*i.e.* causality), places as a third "reciprocal action," this is only an artificial refinement. Reciprocal action is nothing else than a complication of causalities; but pure reciprocal action never takes place; never is *a* at the same time the cause and the effect of *b*; this would be a *contradictio in adjecto* (comp. Aristot. *Physic.* ii. 3: ἔστι δι' τινα καὶ δι' ἀλλήλων αἷτια . . . ἀλλ' οὐ τὸν αὐτὸν τρόπον). The third member to inherence and causality is rather conditionality. Inherence is inherence of a quality in an object; causality is the effect of an object; conditionality is a quality of an effect, namely, the quality that this effect only then appears, when certain other causes with their effects concur (*e.g.* heat calcines a metal, but only when the air has access). The effect here also inheres in the object, but not absolutely; the effect is conditioned through a co-operation of several causes, and indeed not in an accidental but in a lawful manner, so that the mode of this conditional existence appears as an abiding quality of this effect.—This conditionality is also objectively given in nature, but the subject could not perceive the relations and laws of conditionality, if it bore not in itself the formal concept of conditionality. We see causes operating, but not always operating, but only when certain conditions and relations are given. Sense-perceptions do not furnish to us the concept of conditionality; they only supply us afresh with the individual phenomena, distinct from one another.

It is the subject which, in virtue of its reminiscence, *i.e.*, of its identity with itself, and in virtue of its causal concept already made use of, is led to the question: How comes it, that the same cause operates at one time and at another time does not, that, for example, when it rains at one time a rainbow arises and at another time does not?

§ 38. *The Category of Necessity and Possibility.*

The unconditioned efficient cause acts with necessity; what only is effectuated under conditions appears as possible, but as yet problematic, and what under no condition happens is "impossible." It is consequently clear, that the Kantian "categories of modality" (assertative, problematical, apodictical) are wholly reducible to the two of "relation" (causality and conditionality). Thus, therefore, we have not four categories, but only the one, which discloses itself in the three members: extension, causality, and conditionality, since indeed the concepts of totality, unity, and plurality are only exposition of extension. As the category of extension has for its contents just the totality of the individuals in the unity of the concept, so has that of causality the necessity of the effect in the sequence of the cause—that of conditionality, however, has for its contents the possibility of the effect under the condition of the yet problematical occurrence of the conditioning cause.

Obs.—Kant's development of the categories is the weakest part of his *Krit. d. r. V.* It is pure artificialness, when he seeks to derive all the different categories from the relation of the representation to time. *E.g.* under the category of necessity is represented that which always is, under that of reality, what exists in a definite time, under that of possibility, what may have an existence at any one time. That to the lightning the thunder succeeds, is necessary in virtue of a law of nature; but lightning and thunder do not "always" follow one another, but only sometimes, namely, only then, when there is a thunderstorm. Consequently not "always," but only "every time" the thunder follows the lightning. (On the contrary, the earth always turns round its axis.) The succession of lightning and thunder has, therefore, no perpetual existence. Rather would it, consistently

with Kant's doctrine of the categories, have to be assigned to the category of possibility or conditionality: "When it lightens, thunder follows." But this does not correspond to the real state of the case; the causing of the sound through the concussion of the air, which effectuates the explosion of the electric spark, is nothing possible, but something necessary; thunder arises thereby that it lightens. There lies before us the unconditional effect of a cause; the necessity lies therein, not in "perpetual existence!" Not what "always exists," but what must every time happen afresh in all individual cases, because from the same cause the same effect follows, is what we name "necessary" in the logical sense.—With that artificial derivation of the categories from the intellectual intuition of time it is closely connected, that Kant laid down the thesis: Because we have recognised things only under categories, we cannot recognise them as they are in themselves. Directly the converse: In virtue of the categories, *i.e.* of the formal concepts present in us as such, are we in the position, not merely to perceive objects, but to recognise them and their relations.

§ 39. *The intellectual Monad.*

That the (human) subject is cognitively conscious of the world happens, therefore, in virtue of this, that it (*a*) is able to maintain itself continually in identity with itself, and therefore to compare successive sense-perceptions, consequently possesses the capacity of disjunction and of synthesis, consequently of concept-forming, and herewith the category of extension; and that it (*b*) acts not merely actively, *i.e.* efficiently (calling forth changes outwardly, which even animals do), but in virtue of that conceptual cognition distinguishes itself from its operating, and consequently its operating from itself, and therefore possesses the category, *i.e.* the formal concept of efficiency, *i.e.* of causality, and further herewith even that of conditionality (of the inherent quality of an effect). The being-conscious, cognition, and thinking are not, therefore, brought about in a mechanical way, much less through material effects of the bodily organs (nerves of sense and brain), since, indeed, in these organs there is not the smallest fragment which continues the same and unaltered

even only for the length of a minute, since here rather the most unconditioned continual change of matter prevails; but the being-conscious, cognition, and thinking have for their presupposition the existence of an incorporeal subjective monad, of an intellectual monad. This indeed is originally still void of contents, but in the categories bears in itself the intellectual capacity of receiving objects cognitively (*i.e.* in thought) into itself.

Obs.—Against the existence of an incorporeal monad, the fact, as is well known, is appealed to, that with certain sicknesses or injuries of the brain, consciousness ceases. The untenableness of this objection will be proved later (§ 53 and 59).

(c) THE PROVINCE OF THE WILL.

§ 40. *Transition.*

We have now considered the facts of our cognition of the external world according to its two moments; we have seen: (*A*) how man is present in the world, and in virtue of his body a part of the world, and in one place in the world, and in his sense-perceptions identifies himself with his body; and (*B*) how he comes to the consciousness of the world and to the knowledge of the world in virtue of this, that he stands above time, adheres firmly to the identity of himself, possesses herein the faculty of disjunction, synthesis, and concept-forming, and hereby already bears in himself the formal concepts of causality and conditionality, *i.e.* of necessity and possibility.—And notwithstanding all that, still we have not considered “man in the standpoint of the world-consciousness” on all sides. We know him as a perceiving being, or one endowed with sensations—we know him as a conscious, cognitive, thinking being; but he is a third—he is also a volitive being. And this aspect also claims to be minutely examined.

§ 41. *The Sensitive and Motor Nerves.*

From the brain and spinal marrow proceed two kinds of nerves—(1) sensitivi, which report impressions or excitations from without; these are the nerves of sight, hearing, smell, taste, and the “sensible nerves,” which latter partly minister to the sense of touch, partly convey to the subject the feeling of pain from the sick or injured portions of the body;¹ and (2) motores, which receive excitation from the centre, and effectuate movements (contractions and expansions of the muscles). Now it is asked, What is the cause exciting these motores? Is it the conscious subject which volitively calls forth these movements? Or, again, is it a “mechanism” in virtue of which the sense-perceptions, mediately or immediately, initiate movements, so that what is called “will” would reduce itself to a mechanical, corporeal occurrence?

Obs.—Steinthal himself, *l.c.* § 373 ff., and others assert the latter.

§ 42. *The Will no Corporeal Process.*

When the spinal marrow (inclusive of the grey substance) of a man or an animal is cut across in any one place, the sensuous feeling (sense of touch as well as feeling of pain) ceases downwards from the place cut; but now, when one of these disabled sensitive nerves is irritated artificially, *e.g.* by a galvanic current, the irritation passes over through the grey substance to the corresponding place of the motor nerves, and there arises a convulsion. The experiment has been made on the bodies of decapitated men and beheaded animals; the fact is certain; only nothing at all further follows from this than that the nerves, according to their corporeal structure, are very good conductors of electricity. In these convulsions the

¹ The former four kinds of sensory nerves report, in case of local sickness, not feelings of pain, but hallucinations of the corresponding sense, *e.g.* *mouche volante*, ear-singing, bad taste.

nerves do not act essentially otherwise than metallic wires act; it is a mechanico-physical, no organic-vital occurrence. To these convulsions of the dead nerve, which we falsely call "reflex-movements," the real reflex-movements of the living animal stand, in fact, the nearest, yet without being homogeneous therewith. A violent irritation or wounding of a sensible nerve calls forth, at the same time with the feeling of pain (cf. § 23 and § 41), frequently even involuntary movements, *i.e.*, convulsions of a different kind.—But that these real reflex-movements of the living animal are not homogeneous with those so named in the dead body, that, namely, with the former the *nervus sensitivus* by no means acts immediately through the spinal marrow upon a *nervus motor*, rather the effect of the *sensitivus* goes, in the first instance, towards the centre or central organ of consciousness, and that this first acts upon the motor,—which indeed results from the simple fact that the irritation as a rule is bound up with the feeling of pain, consequently with the consciousness of pain. (Anæsthesia can be effectuated by certain means, *e.g.* chloroform. In this case the capacity of sensation is not, perhaps, taken from the sentient subject, but only the galvanic conduction between the individual organ and the brain is temporarily annulled.) From these reflex-movements, which are constantly called forth by violent injurious interference with the nerves (not merely by mechanical interferences, as cuts, blows, bruises, and the like, but also by chemical, *i.e.* by poisons, *e.g.* by the influence of the saliva of hydrophobic dogs that has entered the blood upon the *medulla oblongata*), are entirely to be distinguished all those movements which appear in consequence of sense-perceptions (as those of terror). A sense-perception never calls forth reflex-movements. When a man awakes in the night-time, sees his room in a state of flames, and is now convulsed or shrieks out with terror, this convulsion or shrieking is no reflex-movement which might be caused by the *nervus sensitivus*, the optic nerve, but a movement, if even involuntary, of the muscles or organs of

respiration, incited, however, by consciousness. A mother who sees her child sitting on the grass before a poisonous snake that has unexpectedly appeared, and sees it lay hold on the snake, shudders and shrieks with terror. Why does she scream? Why does the child not scream? Because she knows the poisonous quality of the snake, and consequently the danger. Not the look, but the thought of the known danger makes her alarmed. But likewise also a mother who sees her child play with a blind worm which is not poisonous, but is erroneously held by the mother as poisonous, screams out, whilst the father, standing by, better acquainted with nature, remains entirely composed, and laughs over the alarm of his wife. Analogously, a little child, instead of screaming, will shout for joy, when, on awakening, it sees the room in flames, because it does not comprehend the danger; the sense-perception of bright flames pleases it. During the battle of Kissingen, 1866, the three-year-old little son of a friend of mine shouted out every time and clapped his hands as often as a grenade struck one of the neighbouring houses. Consequently a sense-perception, as such, does not call forth a reflex-movement; but certainly an emotion of fear, of anguish, of alarm, also of joy and joyous surprise, may act incentively on the *nervi motores*. All this, however, has not yet the least to do with the will. There are occurrences which, though excited by consciousness, nevertheless are not excited by the will; they are therefore named "involuntary occurrences."

§ 43. *Essence of the Will.*

The will is no activity or excitation of the nerves, but something belonging purely to the subject, and therefore to consciousness; this follows in the clearest manner therefrom, that there is a multitude of excitations of the will which are by no means accompanied by movements of the body, which do not at all act on the *nervi motores*. To these belong all

wishing and desiring, to these belong all purposes and resolutions in regard of future actions. A. hears that the absent B. has slandered him, and determines immediately: as soon as he gets a sight of B., he will earnestly rebuke him for his behaviour. Or A. thereupon resolves to heartily thank the now absent C. who, unasked, has done him a great service. Is this a perception? Is this a cognition? Assuredly not. Or, perhaps, a "representation"? But if the latter, it is essentially distinguished from every common representation, because a mere representation. A. may even be able to fancy that he chides C. and thanks B.; but to the mere representing of such abstract possibilities there is even here added yet a second, a deciding of that which is to be realized, and this is just the resolution of the will. Motions of the will can be called forth by corporeal dispositions (*e.g.* the thirsty traveller of the desert wishes to find water, and determines to search for a well or puddle, and to alter his course); but they are called forth just as often and oftener by sense-perceptions and the series of concepts and thoughts hereby excited. Those corporeal feelings, which act incentively upon the will, are named impulses, natural impulses. To these belongs also the sexual impulse, which has the peculiarity of being capable of being enhanced by sense-perceptions, which act upon the phantasy; but here again it is not the sense-perception as such, but the phantasy, which acts upon the will, and indeed in such a manner, that this is able to resist it; for a chaste man may have the same sight and nevertheless restrain himself from the effect, while he does not surrender his phantasy to the excitation, but holds it in check.—Consequently the will as such has always and unconditionally its origin in the subject, and therefore in consciousness. Impulse is not will, but feeling; hunger and thirst are feelings; the resolve to eat and to drink is will. The ascetic, as the intelligent patient, also feels hunger and thirst, but wills to fast, the former from religious, the latter from dietetic motives.

§ 44. *Nature and History.*

Arising in consciousness, the will may now become realization or deed, and this it becomes, when it acts incentive upon the *nervi motores*, and calls forth any movements whatever—be it of the organs of speech, be it of the hands or feet, or of the eyeball, etc. Now, as actively willing, man is the author of new series of causes, which, as new beginnings, interlock in the general causal nexus, as new threads in the web of events. Herein also man acts as existing in the world, as a part of the world, as a thing (*ens*) among other things, but as a being, which posits new, as it were, creative beginnings. Every action of every man is the beginning of a new, infinite series of causes, and thus then there are to be distinguished in the causal nexus of the universe (or at least of the earth): Those series of causes which arise with natural necessity according to natural laws, and those series of causes which have their origin in the actions of the human will, which, in other words, signify: The kingdom of nature and that of history.

§ 45. *The Category of Reason, of End and Means.*

The animal belongs entirely to nature; its actions are not determined by a series of concepts, but immediately by impulse. The animal follows the natural impulse, unchangeably and uniformly, through all times and centuries. When the fox devours fowl, it does not thus “rob” and “steal” as fabulists allege, but only follows natural law; even so, the tiger is no “murderer,” when he tears to pieces and devours a man. But man has a conscious will, and the resolutions of his will—when even partly excited by impulses—nevertheless arise as *volitiones* in his consciousness, and thence elapse in the form of freedom. That the will does not enter with natural necessity as a reflex-movement, is shown § 42–43. A law of causality is also active with the conscious will, but

it gets in motion under an entirely different category, not under that of cause and effect, but under that of reason, of end and means. To particularize, the volition does not absolutely take place without a preceding passive excitation; man is incited to resolutions of the will by circumstances, which he experiences or undergoes; but these circumstances, in the form of an efficient cause, do not absolutely call forth resolutions of the will with natural necessity, but they only act as motives (*rationes*), *i.e.* they act upon the will only mediately, namely, only through mediation of knowledge, and only occasioning and permitting, not constraining, freedom. A father, whose son is an apprentice to a business, observes that his son, though faithful to duty and diligent, nevertheless is depressed and cheerless; he finds out that this son secretly devotes himself half nights to mathematical studies. This brings him to the conviction that the son will never feel himself happy, unless he is permitted to devote himself to mathematics, and now this conviction becomes for the father the motive to sell a small estate, which he possesses, in order to be able to allow his son to study. Now here the case certainly does not stand as materialists would make us believe: that the sense-perception of the son sitting in the night behind mathematical books, reported by the *nervis sensitivis* through the grey substance of the spinal marrow or through the substance of the brain of the father, had thereby called forth a reflex-movement of the *nervi motores*, in consequence of which, the fingers laid hold of a steel-pen, and scribbled an advertisement to the paper: "For an estate in a favourable situation a purchaser is sought." But what that father learned through sense-perception—what he saw with his eyes and heard reported by others concerning his son, these moved him to conscious (elapsing in concepts) meditation on the personal peculiarity and inclination of the son, and on his talents, and so brought him to the knowledge, that his son cannot otherwise be happy unless he is permitted to devote himself to mathematics. Now there lay therein as yet no compulsion to

that resolution of the will, to let him really study mathematics. Further, with that knowledge, the father first confronts the peculiarity of the character of his son; he considered him to be a faithful, diligent, obedient man, who has always caused him joy. Now there was still added, as a third presupposition, that the father himself was no hard, capricious man, but that he knew nothing higher than the happiness of his child. All this, however, did not yet suffice to the bringing to pass of the resolution. The point in question still is concerning the means. The man was not rich; he was obliged to sell his little property, and procure money, and in this he was obliged to consider, whether he did not thereby curtail his other children. He was in the beginning "undecided;" he had to choose between yes and no, he was therefore free to choose. What, along with his noble character, decided the issue was, the judicious consideration of the circumstances, perhaps also the persuasion of the rest of the children themselves; at any rate, all this did not yet act as a constraint in the manner of a natural necessity, but only as a complex of motives, and over against them was still left the ultimate point of the autonomous decision of the resolution as of a pure volition. Had this resolution come to pass, so now the advertisement of the sale of the estate in the newspaper was again the means for its execution, chosen with consciousness and consideration of the circumstances. If, now, we give a synopsis of the whole, there was—

1. The unhappy mental condition of the son, along with his well-known inclination for mathematics : } the reason (*ratio*).
2. The purpose to make this son happy : the end (*finis*).
3. The will, to let him study mathematics : } the means determined on (or the contents of the resolution of his will).
4. The sale of the little estate : } a means of the second order, in order to be able to make use of the former means.
5. The advertisement in the newspaper : } a means of the third order, in order to be able to make use of the second means;

and between each pair among these five members there again lay as a mediating member an act of conscious, conceptual reflection. But concepts and conceptual thinking presuppose, according to § 32-39, the existence of an incorporeal, intellectual monad. Thus, therefore, it follows that the will does not admit of being explained from mere corporeal causes. Further we see: the reason did not act in a necessary manner. The father might raise that perception to a reason, or leave it unheeded. The end, therefore, was one freely posited (the father might, therefore, have been able to say: *Ultra posse nemo obligatur*; I have not the money; remain at thy business; resign thyself to the dispensation of Providence, and prosecute mathematics as a recreation in thy spare hours). The means, to let his son study mathematics, was therefore thoroughly suitable, but not absolutely the sole means in order to attain the end (the happiness of his son's life). The secondary means (the sale of the property), to which the primary means stands in the relation of an end, again, was not the only possible (instead of which he might also get a mortgage). And, moreover, with the tertiary means (the advertisement) the choice stands open between different newspapers, different forms of the advertisement, etc. Thus we see freedom of choice from beginning till end, and our own most immediate consciousness even attests, in the case of every such choice, that the ultimate point, the decision itself, never comes to us from without, but, as a resolution, is a most peculiar autonomic action of our will.

Obs. 1.—The existence of this autonomy admits of being easily proved. Buridan has denied himself, but the ass, which dies of hunger, while he sees at an equal distance from himself two heaps of fodder of absolutely the same size and excellence, and hence is not attracted more by one of the same than by the other, consequently remains in eternal suspense between both,—this ass, having no will of its own, exists only in the head of its author. Let us rather, instead of the ass, directly place a man. If we lead a boy to a table, where lie two five-mark pieces of the same stamp, and of the same date, and of the same brightness, and say to him: "One of these is thine,

the other thy brother shall have when he comes." If the autonomy of one's own decision, asserted by us, does not exist, the boy cannot for himself decide to take any of the two coins,—for the same reason as the Buridanian ass! But I bet a thousand marks he will quickly, resolutely, most gladly seize and appropriate to himself some one of the two pieces of money.

Obs. 2.—Indeed the animal also posits ends (as one is accustomed to express himself, although this, as we shall see later, is a distorted expression, and, in the case of animals, we can properly speak only of intentions, not of ends), and apparently chooses means to the attainment of the same. But above all it is not free in the positing of "the ends" themselves; for its "ends" always run with natural necessity into the two ends of self-preservation (by nutrition and shelter) and propagation; other than these two it has not and knows not. Trained domestic animals act for ends which are not posited by themselves, but by man for them (*e.g.* hunting-dogs, draught-animals, saddle-horses). Even the attachment of single domestic animals to their master takes root solely in the experience of having in the master their maintainer and protector, in which, moreover, is still to be observed that, with the domestic animal, a mirror-like reflex of human qualities manifests itself (see hereon, § 69, *Obs. 2*). So then as to the choice of means, the choice and freedom of choice here taking place is thus only an apparent one. Female birds have on the middle of the belly an unfeathered spot ("ridge") which is covered by the feathers growing on both sides. When now the female incubates, she inflates the feathers of the belly, so that the eggs come to lie close to the bare skin and are covered sideways by the inflated feathers. More skilfully the means to hatch the eggs could not be selected; for the egg to be hatched needs warmth; feathers are bad conductors of heat; if these lay between the egg and the belly of the hen, the blood-heat of the latter would not be able to radiate upon the egg; but, since the egg is in immediate contact with the bare skin it is thus heated, and the feathers simultaneously enveloping the same prevent that this heat, conveyed to it, again radiate away. Certainly the means chosen—only not by the hen—are excellent. For she clearly knows nothing at all of conduction of heat, radiation of heat, good and bad conductors; she has heard no lecture on physics; a six-year old peasant boy knows just about as much of all these natural laws as she. Exquisite are the means chosen, not, however, by the hen, but by a higher intelligence! This unconscious designed action in accordance with the laws of nature is named the instinct of animals. When now a swallow,

in order to come through a narrow crevice with a long stem which it carries in its beak, turns the stem forwards, this choice of suitable means will indeed permit of being reduced to instinct, since the swallow has not studied mathematics. Even Darwin (*Descent of Man*, i. chap. ii. p. 39, Ger. ed.) is so honourable as to concede that understanding and instinct are often confounded, and that what belongs merely to the latter is ascribed to the former. If Esquimaux dogs, which draw sledges, in coming upon thinner ice keep farther from one another, this evidently is not understanding but instinct; for of the laws of cohesion and of the centre of gravity the dogs know nothing definite. The details hereon will also be given still later (§ 71).

§ 46. *Enlarged Concept of Possibility.*

In the consideration of the will there has resulted, along with the category of reason, end and means, the concept of freedom, preliminary merely to the positing different possible ends, and the choosing between different means for the end posited, and the termination of this choice through the autonomous decision of the will. But the concept of possibility has here essentially widened itself to us, and extended itself into an entirely new domain. In the domain of natural law possibility was identical with conditionality; here in the domain of the will all appears as possible, what may somehow, in a real manner (*i.e.* as physically practicable), fall to the choice of a volitive subject. (a) "It is possible to analyse water into hydrogen and oxygen," when we employ, namely, a galvanic current. (b) "It is possible that I travel next week to Berlin."

(d) SYMBOLIC IDENTIFICATION.

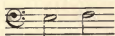
§ 47. *What is Symbolic Identification?*

In the positing of an end and choice of the means an influence of knowledge upon the will takes place, according to § 45. There is, however, in the facts of consciousness an entire, large, important domain, where, conversely, an influence of


the will upon the consciousness itself takes place. We designate this domain as that of symbolic identification, and a thorough examination of the same is offered, so much the more urgent as on many relative phenomena perverted conclusions have been built. We do not, however, wish this inquiry to begin with a definition, but, again, with an empirical consideration of empirical examples.—The acoustic relation of the intervals of the gamut (octave, fifth, fourth, etc.) is essentially an objectively existent one (although, according as we employ a tempered system,¹ or one of the non-tempered or half-tempered systems, different computations of the number of vibrations, consequently different tunes are possible, between which a choice lies open to the will). If we at any rate consider one of those systems, and in it the interval as objectively given, it is, nevertheless, entirely an affair of the subjective will: (a) how we wish to name the series of tones corresponding to the interval, whether with c, d, e, f, g, a, h, or whether with ut, re, mi, fa, sol, la, si, or with hypate, parypate, lichanos, mese, paramesos, trite, paranete, nete, or as otherwise; (b) what single definite elevation of tone we wish to take as the starting-point of the scale (the pitch of the tuning-fork). And further, if now the point in question is a visible designation of those intervals, consequently concerning a music-notation; this, again, is not a matter of the knowledge of an object given in nature and with necessity, but, in the first place, is entirely a matter of the productive will, but depending on conscious reflection. The Greek designated the tones of the scale with the (partly mutilated or modified) letters of the alphabet (*e.g.* in the E minor scale the keynote with a mutilated Π , the remaining tones with $\Omega\Phi\text{COMIZ}$); the Middle Ages made use of the modern notation; Guido of Arezzo invented the lineal system with notes, which since has also experienced many transformations. Thus, even if we consider the intervals themselves as given objectively and naturally, nevertheless, we already have a double symbolization of the

¹ Cf. hereon my *System der musikalischen Akustik*, Erlangen 1866.

same, firstly, by (audible) names ; secondly, by visible signs—both arbitrarily invented. Now, thirdly, there is in addition the invention of the different kinds of musical instruments taking place likewise through a co-operation of the activity of the will with the intellectual cognition of the laws of sound and of the production of sound ; and fourthly, to say nothing of the arbitrarily chosen designation of the same and of its individual parts, there is still also the invention and the fixing of definite execution-marks for single parts of the same (*e.g.* *f* and *p*). Consequently we here have series of names and of signs (and in other arts and sciences at least series of names, “nomenclatures”) which are products of the will. Now what happens, when we play upon an instrument, *e.g.* a pianoforte, a piece according to the notes ? The perception of the sense of sight furnishes to us the consecutive intuition of note-marks ; in virtue of the instruction received we know that *e.g.* the names *e*, *f*, correspond to the signs



and these names identify themselves in our consciousness with those signs. It is this designation of objective relations and series of relations, that has proceeded not from knowledge, but from the will (though from a will depending on cognitions from another quarter), which we designate with the expression : “Symbolic identification.” In the judgments : “The black one is a horse,” or : “This horse is a black one,” or : “This horse is black,” an identification also takes place, but it is the identification of two concepts that have arisen through the cognition of the objectively given ; here, on the other hand, we identify the arbitrarily produced and the arbitrarily appropriated (for it is, indeed, my free will, whether I will take a German teacher, who teaches me *c*, *d*, *e*, *f*, *g*, *a*, *h*, or a French maître de musique, who teaches me *ut*, *re*, *me*, etc.). Both times, however, it is a real identification, no mere “consecution of two representations.” As with the thought : “The horse is an animal,” I do not first think the

concept, horse, and then the concept, animal, but already at the beginning of the proposition, I think and wish to say just this, that the concept "horse" belongs to the extension of the concept "animal," and as I therefore still hold firmly the concept "horse" in the concept "animal"—and so, as in the syllogism, I still continually think the idea of the major premiss along with the minor and conclusion (without which supplementary thinking the operation of reasoning, indeed, could not at all occur)—even so I think the signs of the notes and the names of the notes, not one after another, but along with and in one another; the sign  is e. But, secondly, I know, likewise through the instruction received, that such a key, together with the tone produced by its touch, is likewise e. And thus, thirdly, I identify the sign of the note for e with the e-key, and therefore as soon as I see the sign, I immediately think also of the corresponding key. If, now, there exist from the first the will to produce the tones symbolized by the notation-marks, it follows that my consciousness placed under the guidance of this will, or more exactly: my will, standing in the light of this consciousness, will excite the corresponding nervos motores, in order that one of my fingers may strike that e-key. But which finger has to be taken for this purpose, this does not follow so simply, and by no means through symbolic identification, but only through reflection. With a fugue from Seb. Bach's well-tuned piano even a practised piano-player must often well reflect, and several times try in vain until he finds the correct fingering, and a beginner needs this reflection even with easier pieces. The consciousness, however, of the keys which are to be struck, is brought about in the way of symbolic identification. It is the will which has here productively prescribed to consciousness judgments of identity. Man had perceived the objective intervals: the nomenclature for which, as the notation-marks, he has volitively determined; "this sign is to be called a, that c; the chord touched by this key is

to be tuned to the tone a, and therefore this is also to be called key a." And thus consciousness stands here in a cognitive and receptive relation, not towards an objective law of nature, but towards an artificial prescription or nomenclature given arbitrarily. (Analogously the designation of pigments in the art of painting is an arbitrary one; what one names "asphalt," another names "bitumen;" what the one names "Florentine-brown," the other names "caput mortuum;" what the German names "Berlin-blue," the Frenchman names "Prussian-blue," and so on.)

§ 48. *Language, Writing, and Speech.*

Since, therefore, nomenclature is demonstrated as the soul and kernel of all symbolizing identification, we are thus led, altogether of ourselves, a step into the abyss, namely, into that sphere of symbolic identification, which, amongst all, is the most primitive: language. Now, without delay, so much is clear, that the written characters stand to the spoken language in the relation of symbolic identification, *i.e.* in other words: that the written characters are a symbolization produced by the will, *i.e.* a sensible representation of the spoken language, what already follows therefrom, that different nations have for the same sounds different characters, *e.g.* Eng. a, Ger. a, Gr. α, Heb. א, etc. And that with the Semitic and Indo-European languages the different alphabets have arisen, one from the other, by transformation, does not the least damage to the truth of this position; even this transformation belongs to history, not to nature and natural law, for it is a product of the activity of the human will. The Armenian alphabet has been openly invented by one particular man, Mesrob. Further, there are peoples who have syllabic-writing (as in Sanscrit), or word-writing (as in Chinese). Consequently, in the relation of written characters to spoken language a symbolic identification, in short, presents itself. But, nevertheless, this is only a secondary matter; we have here to

speak of something far more primitive: of language itself and its nature. The word as such, that has not yet been written but spoken, is a symbolization of the concept designated thereby. We say: "tree," and the concept of tree unites immediately therewith. We say: "This is a tree," and therewith we identify the thing with its name. (We do not indeed say: "The oak is called a tree," but: "The oak is a tree," "this plant here is a tree," etc.) Now the first question (*A*) is, whether the origination of language is a natural or an historic occurrence, *i.e.* whether the origination of language has arisen with natural necessity from natural laws as a process of nature, or whether it is to be explained from actions of the will of conscious beings. If the latter, then, in the second place, the question is first asked (*B*), whether this will (*a*) has had the quality of individual arbitrariness (so that language were an invention of one clever head or of several), or whether (*β*) the will, producing language, has depended on an innate, intellectual consciousness, a genial creative impulse and anticipation.

§ 49. *Is the Origination of Language a Natural Occurrence?*

The first question: Whether the origination of language has been a natural or an historic occurrence, admits of being decided very concisely. For the former, the materialism of ancient and modern date declared itself; among the representatives of the latter are, *e.g.*, Büchner, Häckel, Vogt, Montgomery, and their associates. The animal call of copulation is the beginning and origin of human language,—whereby the trifling matter only remains to be explained, what has moved or brought man to the point of going beyond this cry of passion, which he has in common with cats, stags, etc., and even of bringing other sounds into use for other ends. Mere interjections, as cries of pleasure, of pain, of terror, and the like, at all events, still admit of being explained (even so bestially); therewith, however, we do not advance far: now

that the fatal fact stands, that man symbolizes by parts of speech not merely sensations, but concepts. Materialists, therefore, appealed to the imitative instinct, and explained the origination of verbal concepts in an onomatopoetic manner: Man heard sheep bleat "ma," and he bleated their "ma" after them; he heard dogs bark "wow," and he barked "wow" after them, etc.; thus the representation of a sheep became associated with the sound "ma," that of a dog with the sound "wow;" thus were concepts formed in man. We do not mean to be so spiteful as to ask why concepts have not likewise formed themselves in the brain of the mocking-bird, which imitates the song of so many kinds of birds. Of only few names of animals belonging to the Indo-European family of languages could an onomatopoetic origination, perhaps, be conceded (*e.g.* of *βοῦς*, *turtur*); but that a sheep has ever cried in India *avi*, in Greece *οῖς*, in Italy *ovis*, or a pigeon, *columba* or *περιστέρα*, or a bull roared *ταῦρος*, and a dog barked *σαν*, or *κύων*, or *canis*—or that an onomatopoetic relation prevails between *tschandra*, or *ἔλενα*, or *luna* and the moon, between *savitr*, or *sol*, or *sunna* and the sun; between *tára* and a star, or between *idhma* and a beam, or *ena* and an antelope, and so forth, and so forth, no being pretending to reason will assert! The science of languages and comparative philology teach us that abstract verbal concepts lie at bottom of a multitude of substantives (and directly also of the names of animals); in the very ancient Semitic language this is almost altogether the case. No river produces by its current an R-sound (certainly, however, an sh-sound), and nevertheless the verbal root *r*, with its transformations, *rr*, *ῥέω*, *ῥαίνω*, *ruere*, *rinnan*, *rinnen*, *reth* (Irish), is, in general, common to the Indo-European and Semitic languages for the concept of flowing, of streaming, of motion. Just as little onomatopoetical is the root *ludere*, Irish *lath*, "to dare, to attempt something," hence then: "to play;" or *i*, *ἵεναι*, *ire*, *eit*, "to go;" or *pat*, *πέτομαι* (whence *patava*, *fédah*, *vetech*, wing), "to move up and down;" or *sa*, *sao* (whence *sáram*, and *eisarn*

and Irish *iarn*), “firm;” or *scapula*, Old High German *scul*, Irish *guall*, the shoulder; or *gr*, *γλαῦκος*, *glan*, *glic*, grey; or *gru*, *κλυεῖν*, *cual*, *horjan*, to hear; or *ba*, *καίω*, “to burn;” or *pa*, *patere*, “to be open;” or *pa*, *σάττω* (cf. *σάκος*, “to cover oneself, to arm”¹), and hundreds of other roots. In addition, there is the fact of homonymous roots, as when the root *br* (in *br*), *καλεῖν*, “to call,”—and the same root, *br*, *κέλης*, *celer*, “quick,”—and again, the same root *br*, *calere*, “to be warm,” and fourthly, almost the same, *br*, *κλείω*, *claudio*, “to close;” and finally, *br*, *καλός*, Gothic *kails*, Slavonian *czélas*, means “to be hale, to be whole.” Can the phantom of the onomatopoeitic origination of roots be more strikingly proved as absurd than by such facts? In a less absurd, but not less perverted manner, has Steinthal (“Ueber die Entstehung der Sprache,” Part i. of his *Introduction to the Science of Psychology and of Language*) sought to make intelligible the origination of language as a natural occurrence. Engaged in indistinct wavering between materialism and intellectual philosophy, he confesses, pp. 9–16, that a cognition or a thought can never be formed in a purely *à posteriori*, empiric manner; man “supplies mentally the *à priori* categories to the perception of sense;” he says, p. 82, language is “no sensation, but an origination or production within the spirit;” and, p. 76, he proves very well that language is not innate to the child, but that the child learns it in the society of man, learns, namely, to understand and then to speak. But he, p. 83, again overturns this correct position, and asserts every child produces language for itself, it seizes a certain word heard from the mouth of another, and “to seize means to produce.” The latter, however, is more bold than true; “to seize” does not even mean “to produce,” for what is to be seized must already exist, what is to be produced does not

¹ I purposely cite a number of roots, which are proved by R. v. Raumer and Fr. Delitzsch as common to the Semitic and Indo-European languages, which consequently belong unconditionally to the oldest of all. Their number might have been multiplied tenfold; these few examples may here suffice.

yet exist. Children apprehend and learn language; therewith the state of affairs has its course; but now the problem remains, How then did the first parents attain to language? They had in truth no one from whom they might learn or "seize" it. Now here he (p. 359 ff.) assists with the help of a natural occurrence; he seeks to explain the origination of language from a "reflex-movement." Whilst with animals, the animal soul is conjointly moved by the affections of the body, with men the body is moved by the affections of the soul. A "representation," or an association of representations, acts, namely, incentively upon the *nervi motores*; the soul seeks to "free itself from a pressure" (then every "representation" exercises a pressure upon the soul?) by an "eruption of sounds," and in as far as there is "deliverance, consequently freedom," there is the essence of language. (Freedom = involuntary striving to free oneself from a pressure! consequently the condition of a slave who shakes at his chains were freedom?!). For, according to this, Steinthal assumes in all earnestness that properly every waking man would have always to speak, because he continually receives impressions of sense, and that there must still be assumed a peculiar hindering agent in the organism, which brings that babbling sometimes to a standstill and the man to silence. (Therewith this laughable hypothesis contradicts itself.) Now since those men, who "first began to speak" (but, in truth, they were obliged to babble continually, since they existed!), "were organized" collectively, "corporeally and mentally alike" (whence does he know this? there were, at least, little men and little women, and these were certainly more irritable than those!), so they all produced the same audible eruptions for the same impressions of sense, learned, therefore, respectively to understand the meaning of the same, and thus an original language, if even in the beginning very "sprawling," was formed, which parted later into different families of language. —With this entire hypothesis, which is itself sufficiently "sprawling," Steinthal throughout all the 487 pages of his

book (in consequence of his confusion, already censured above, § 32, *Obs.* 2) has left the chief and supreme fact out of attention and out of reckoning, namely, that in every language, the most ancient as the most modern, all the parts of speech together, except the interjection and the proper noun, do not designate representations but concepts. There is no common noun which would denote a definite individual representation, every common noun denotes a complex of disjoined general marks summarized synthetically in unity. The proof lies therein, that we may place or think the definite and the indefinite article with every appellative: *hic mons, mons quidem*, "the table," "a table," and, with the possibility of the indefinite article, is at the same time given the possibility *eo ipse*, to prefix the word "all:" "a table," "all tables." What, however, may be thought as well in unity as in totality, this is a concept (§ 34). If the first speaking man designated first the one bull and then another bull with the nominal root of the original language, which lay at the foundation of the Heb. שׂוּר, the Arab. شور, the Chald. שׂוּר, the Greek ταῦρος, the Old High German *stior*, the word was detached from the particular representation, and the concept of bull was given. There is no adjective which would not designate a general quality, a predicate-concept, which might be attributed to several individuals of one species, or to several species and genera. If the first speaking man predicated the verbal root, present in *gr*, γλαῦκος, *glan*, grey, first of the grey sea, and then of a grey cloud, thus the concept of the predicate "grey" was given. Even so, there is no verb which would not express an activity or state, which might be affirmed of different grammatical subjects. The fact that in the primitive stages of the development of language, internal mental occurrences are symbolized by the visible, "to discern" by "to see," "to think" by *co-agitare* (although besides there was already *man, manas* in the Sanscrit, *mens* in the Latin), "to love" by φιλεῖν, "to kiss," and

and the like,¹ does our position no harm. Both kinds of words are concepts—concepts designate the *voces* of every language, not less the *vocabula*. The adverb is either a concept of quality, consequently a predicate-concept, which unites with the predicate-concept of the verb, or a pure determination of the relation of space or of time (here, there, before, after, ever, never, sometime, etc.), which, again, is in concepts abstracted and disjoined from all concrete contents of representation, and is capable of entering into a synthesis with every verbal predicate-concept. Moreover, the conjunctions even express nothing else than those intellectual, formal concepts of cause (thereby that, since), of effect (so that), of conditionality (if), of reason (because), of end (in order that), or the just as purely formal concepts of time and of space (where, when, during, before, afterwards). Finally, pronouns are of very different logical constitution; all the relatives are of later origin, and are serviceable merely to the closer, more abstract, logical connection, when an entire judgment is predicated as an attribute of a substantive-concept of another judgment. The demonstrative pronouns alone express a real individual representation, but even these are such, that they (audibly or silently) are subsumed under a concept (“this,” namely, man; “that mountain;” “this,” namely, being). The interrogatives are an expression of the mental activity of the questioning which we have already in § 39 become acquainted with as one exclusively human, correlated to the category of causality. There thus remain only the personal pronouns, which actually express a single representation, but one connected immediately, even wonderfully, with a consciousness of which, moreover, we have still to speak by and by, in the consideration of our knowledge of self. The personal pronouns, in truth, designate the subject as such.

¹ To this likewise belongs, that language loves to symbolize intuitions of space by intuitions of time or motion, *e.g.* “the mountain rises up abruptly, ascends abruptly up, sinks down steeply, the valley stretches.” The motion of our eye will here carry us beyond the perceived objects. Concepts, however, are constantly the ascending, falling, etc.

Thus, therefore, this stands secure: Language is a symbolization of concepts, and therefore its origination admits not of being conceived as a natural occurrence. The speech-forming factor is that subjective activity of disjunction and synthesis, and hence further, those categories belonging to the subject, or the formal concepts of causality and conditionality, of reason, of end and means. At the basis of the oldest forms of inflection already lie the concept of time (in the distinction of preterite and future) and the concept of end (in a species of the future formation, *e.g.* קטל from *i-ktol*, "he goes to smite," *bodhejam* from *budh* and the same root *i*, even so *bhotsjâmi*). Language has not therefore the impressions of sense for its immediate cause of origination, so that, upon the excitation of the *nervus sensitivus*, there followed, as a reflex-movement, the excitation of the *nervi motores* moving the tongue, lungs, and larynx, but it presupposes, as its immediate cause of origination, the consciousness of concepts. The converse assertion: a concept can by no means be formed without a word, is fundamentally wrong. Deaf-mutes (who were never in an institution) think and form concepts. A deaf and dumb cousin of my grandmother, whom I visited in his dwelling-place, Bieberich, when attending the gymnasium, asked me how many days' journey from mine to his dwelling-place, while he pointed first to me, then to the distance, then placed his head upon his hand and shut his eyes, and finally let the forefinger of his right hand glide, as in counting, on the single fingers of the left hand. He had formed for himself the concepts: distance, journey, night-quarters, number, without possessing words for them, and evidently he had for himself abstracted from his daily sleep the concept of sleep, before he invented for it the sign (the *gestus*) of the head placed on the hand; for he could not indeed devise this sign, before he had for himself abstracted that concept. And now, moreover, he applied this sign for the more remote and complicated concept of night-quarters; the latter he had abstracted for himself (from his own journeys, which he

made with his brother) without even possessing for it only a particular sign. Even the interrogatory concept, "How many?" he possessed without possessing for it a sign. (The same narrated to me the shipwreck of a steamer in the proximity of Bieberich, related to me how it ran upon an island of the Rhine and ran through asparagus—he bowed himself and made the motion of running through asparagus, then he drew the forefinger like asparagus through the mouth—and other things besides. He must have abstracted the concept, asparagus, in order to be able to form for himself this sign; the will, to draw the finger through the mouth, presupposed, that he, from the representations of all asparagus, which he had seen, had already abstracted this mark, that it is accustomed to be thus eaten.) Consequently the concept is always the first, the formation of a word the second. The sense-perceptions furnish the material for the formation of concepts to the subject, remaining identical with itself and consequently super - corporeal, intellectual, which has in reminiscence the faculty of forming concepts (§ 32). Concept-forming itself is an intellectual act, and the formed concepts are symbolized in words, *i.e.* in combinations of sounds. First the production of these sounds is a physical act proceeding from the will, and therefore, and just only in so far, has human language a natural side, which, *e.g.* in the Indo-European languages (less with the so very stable Semitic), it makes known in the shifting of the accent (that has arisen according to law, but nevertheless not, on this account, without influence of the national mind).

§ 50. *Is the Origination of Language an Arbitrary Act?*

The first question is, therefore, so far stringently decided, that the origination of language admits not of being understood as a natural occurrence, but only as an historical occurrence, *i.e.* as an act of intellectually conscious, human volition. Now, secondly, it is asked: Has this will the

quality of individual arbitrariness? In the time of shallow rationalism language was looked upon as the invention of some one clever head; as Guido of Arezzo chose for the designation of the intervals of the scale, in virtue of an arbitrary idea, the commencement syllables of the hemistichs: **Ut** queant laxis **re**sonare fibris **mi**ra gestorum **fa**muli tuorum, solve polluti **la**bii reatum, **san**cte **Jo**hannes! in an analogous manner some one primitive savage, specially shrewd, devised for the designation of his head some one agreeable syllable, for that of his cottage another, for that of his leg a third, etc., rehearsed the same to his wife and children in pointing to the corresponding objects; these would have imitated the sounds; with others this invention found approbation, and thus words have more and ever more been gradually "invented." In fact, on one of the Sandwich Islands it has occurred, that the chief, when weariness plagued him, decreed, that instead of the words hitherto used for such and such objects of common life, others of his own invention must, from that time on, be current.¹ From such occurrences, perhaps, the disintegration and wasting of the Polynesian language may partly be explained; that the origination of human language does not admit of being explained in so absurd a manner, thereon no more doubt at present prevails. Since there is a multiplicity of languages, and of families of languages, the impress of the national mind and national character makes itself known in the sound and structure of every one of the same, and from the branches we must draw the inference to the stem and the root. We find in each of these branches and offshoots an historical development; a product of individual arbitrariness would not have been capable of such development. Every language not only fits as a garment the complex of the culture-historical and ethical concepts developed among the corresponding people, but appears much more directly as the organic embodiment of the mental life of this people, and indeed as regards the formation

¹ Wilh. v. Humboldt, *Treatise of the Berlin Academy of Sciences*, 1832, part iii. p. 295.


of the accent itself (*e.g.*, the transmutation, enervation, alteration of definite classes of accent), the mode of the inflections, of the formation of cases, tenses, moods, etc., and the method of their constructions. Thus even the primitive language could have been no product of the individual will. What was it then? What was it which caused man to choose directly these sounds or combinations of sounds for the concepts formed by him? We answer: That which caused the first foundation-laying beginners of language to produce verbal roots, which not merely coincided with the then condition of development of the concept, but were capable of development in the sense that they contained the germs for an expansion of language which was capable of serving as the body of the succeeding development of concepts and ideas for all coming times,—that could only have been an innateness of the faculty of production, in virtue of which the producer beheld intuitively in an anticipation, destitute of reflection, and grasped an objective adaptation, which, as an all-embracing one in principle, lay far out beyond his individual horizon. But therewith we touch a new domain of phenomena, which must be investigated just as carefully as the preceding: That of unconscious thinking and genial production.

Obs.—Steinthal gives himself the superfluous trouble to prove that the first men “have” not “been instructed in speaking” by God (in Paradise). According to his and other people’s opinion, it would then indeed be the problem of a Christian apologetics to prove that Adam was, of course, taught to speak in Paradise by God appearing visibly. If only something of this were in the Holy Scriptures! But the direct opposite stands there. The first word, Gen. ii. 16, 17 (for Gen. i. 28–30 is spoken after the creation of Eve), which God addressed to Adam (before creation of Eve), Adam understands without delay, without there having been an address of any instruction whatever, and when Adam—likewise before the creation of Eve, Gen. ii. 20—gives names to all animals, so do we indeed see, at least, that the speech-forming activity as one peculiar to him, the man, is presupposed. While he, in forming concepts, and therefore in forming language, stood in relation to himself, he also understood the words which the appearing God spoke to him. The speaking

of God to the man operated in awakening that genial faculty of production existent already in him. (Well, even S. Mehring will not desire to see his thesis, "No Language without Instruction," otherwise understood.—*Philos. Krit. Grunds. der Selbstvollendung*, p. 138 f.)

(e) THE PROVINCE OF UNREFLECTED THOUGHT.

§ 51. *Unconscious Thinking and Acting.*

Let us turn back for a moment from language to music (§ 47). He who first learns an instrument, *e.g.* a piano, needs with every note a certain duration of time, in order to identify the pair of symbols:  and \bar{g} (note-mark and name of the same), and then the pair of symbols: \bar{g} and the stricken-in G key, and consequently both pairs with one another. In other words, he must bring himself first by reflection to the consciousness how this note-mark is named, and then, what key corresponds to this name. A practised player, on the contrary, is not only in the position to play from the leaf a piece, not too difficult, but he may even be able, whilst he plays it from the leaf, to think simultaneously on things entirely different. The identification of both pairs of symbols goes on therefore apparently "unconscious" of itself, in truth, not of course absolutely unconscious, but only without reflective consciousness. (Analogously, does one copy mechanically a piece of writing and therewith thinks on something else. Or a painter mixes up a colour-tone, whose ingredients are familiar to him, and therewith thinks on the locality where he wishes to spend the evening with friends. And more such.) Now here, there has been drawn the hasty inference: The middle members had here fallen out, *e.g.* with the piano player there had fallen out the members of thought: "This note-mark is named \bar{g} , and that key bears this name \bar{g} ;" the nerve-centres of the spinal marrow having accomplished the entire labour; they were "exercised in a certain combination

of perception and activity" (so especially E. v. Hartmann, *Phil. d. Unb. A. V.* p. 97; also Steinthal, p. 164 ff.). In consequence of mere custom, that *nervus motor*, which brings the finger on the corresponding key, is immediately "set free" (*i.e.* put in excitation) by the sensitive optic-nerve, which receives the perception of the note-marks. But which finger then?! The attempt at explanation would be quite excellent if we, for a key-board of seventy-two keys, possessed just as many fingers. We, however, possess only ten of them, and indeed, with that theorem it has been quite forgotten that one and the same key is touched, the one time with the thumb, the other time with the forefinger, the third time with the middle or ring-finger. To the note-mark corresponds a pitch of tone (an interval), to the pitch of tone a key, but to the key never a definite finger. Between key and finger no symbolic identification takes place, but it depends on the preceding and succeeding notes what fingering is to be employed, whether, *e.g.*, the supplanting finger must be supplanted, and with what note, in order to suffice with the fingers for the following notes. This reflection, consequently thought, demands. Never, therefore, is the definite finger set in motion by a sight, so that the action might be explained mechanically from a habit of the nerve-machinery. Not even is a finger-series put in motion by the sight of an entire note-figure; for when, *e.g.*, four sharps form the signature, this note-figure has an entirely different meaning than when, perhaps, three B flats form the signature, whilst the sight of the figure is nevertheless entirely the same. And what forms the signature I may not see (in the moment when my look has arrived at this figure), but I know it, and call it to mind from the beginning of the piece, or of the line. Between the excitation of the sensitive nerves and the activity of the *nervus motor* there lie therefore not only the symbolic identification of two pairs of thought-symbols, but, besides, in the midst thereof, even a knowledge and a reflection. And, notwithstanding, during this *prima-vista* playing, consequently

during this reflection, I think on something else, I am conscious therefore, not of this reflection, but of an entirely different series of concepts. And, nevertheless, I play the piece, not only correctly, but also with style, namely, with application of the artistico-æsthetical, musical style, which in general and on the whole I have adopted. This one species of facts already proves that there is an unconscious reflecting or unconscious thinking.

Obs.—We may refer to an entire series of facts. A professor traverses the streets on his way to or from the lecture, while he is actively occupied in conscious thinking with some one object or problem of his science; nevertheless he distinguishes among those meeting him the acquaintances to be saluted from the strangers not to be saluted, and among the former, again, those to be saluted respectfully from those to be saluted carelessly. (He who cannot do this is called “distracted,” but with injustice, since with such a one the entire power of mind and thought is conversely rather directed to one object, and is absorbed by this.) A landscape painter stands before the easel; he hears a carriage roll past, and with his conscious, reflected thinking recalls the fact, that just now the bridal pair N. goes to the wedding, and recollects the history how the couple became acquainted with each other, what difficulties the parents opposed, and the like; or a death-knell reminds him that just now the good old P. is buried, and he vividly remembers many pleasant hours spent with him. During which, however, he continues to paint. He is on the atmosphere directly; he knows that he has to mix Kremser-white, cobalt, and some bone-black; he knows that a little less burnt ochre must be added in order to give warmth to the air-tone; he knows how long he must labour with the spatula, until these colour-substances have fully united; he knows how he has to lay it on suitably with the thick paint-brush, and then to shade down with the shading-brush; he knows that down toward the horizon he must put on more white, etc. In all this he does not need to think reflectively, as little as when the piano player thinks reflectively thereon, that the G note has here, in consequence of the signature, the signification G sharp. But if he thinks all this not reflectively, still he thinks; the entire complex of his artistico-technical knowledge is as clear as an opened book before his consciousness, and he operates with this complex.

§ 52. *Impossibility of the Materialistico-Mechanical Explanation.*

How is this "unconscious," or better: unreflected thinking, which may exist along with a reflective thinking, to be explained? Modern psychologists of the school of Herbart have invented for it the name of "vibratory representations" (*e.g.* Steinthal, p. 237). They even claim, namely, to explain this psychical or spiritual phenomenon from a physico-corporeal procedure, and as one. That "unconscious thinking" is a mere activity of the brain, consists in vibrations of the brain-ganglia, which afterwards, on their own authority, still continue, namely, those vibrations to which they have been excited by consciousness (be it considered as mental, be it in turn explained even materialistically). But for that reason this mechanical hypothesis already strikes in the face all laws of mechanics, because, according to the latter, every vibration of a ganglion must decrease in excursion with time, consequently must continually become weaker, while experience at least teaches that with a man, who has learned music in the ninth year of his life, his knowledge of the note-marks, signatures, etc., continues to maintain itself with undiminished distinctness until in his old age. You will object, that he renews them afresh with every playing; but experience shows that after pauses of several weeks, nay, of several months, the knowledge of the note-marks, etc., is about a hair no less clear than after an interruption of a few hours, while, according to that mechanical presupposition, a becoming weaker of the vibrations must, nevertheless, infallibly ensue. And further: what kind of movements then would, well, such a ganglion have to execute in order to abstract and reduce to synthesis the general concept animal from fifty or a hundred different excitations of perception, *e.g.*, of a cat, of a stork, of a flea, of a pike, and so forth, reported by the optic nerve? And if these logical operations consisted in a movement of the brain-ganglia, quiescent knowledge would, consistently at least, have

to consist in a quiescent, abiding state of those ganglia, either in a definite tension (analogous to the tuning of a chord) or in a definite chemical state. Let us assume the former, let us suppose in the brain of the mathematician this ganglion is tuned to the concept of line, that to the concept of angle. Now the mathematician, however, thinks also the concepts: "straight line, crooked line, broken line, limited line, unlimited line," "right angle, acute angle, obtuse angle, solid angle;" again, for each of these kinds of concepts or representations is there to be existent a particular ganglion with a particular tuning? Then, it is not conceivable, how the subsumption of different kinds of angles under the genus concept of angle is to be effected (for this subsumption is an identification: "the acute angle is an angle"), since, in truth, the ganglia *b, c, d, e*, can never be identical with the ganglion *a*, but each remains in its place. Or, if there is to be existent a particular ganglion for every concept of quality (straight, crooked, broken, right, acute, obtuse, solid, unlimited, and so forth), it is not well conceivable, first, how such a ganglion, *e.g.* that tuned to the concept "right," can be identified, the one time with that tuned to "angle," the other time with that to "hand," the third time with that tuned to "conduct," and, moreover, is each time to call forth an entirely different representation (*quadratus, dexter, probus*). If, however, you claim to assume that for these three meanings of the word "right" three different ganglia are existent, then you desire to make conceivable, that the perception of sight excited by the view of the printed word "right," or the perception of hearing excited by the utterance of this word, sets in motion the one time this, another time the second, a third time the third of the ganglia tuned to "right." This admits not of being made conceivable in a mechanical way; first, there would here again have to be supposed a knowing and thinking, which intervenes between the perceiving sense-nerve and the one correct conducting-thread among those three ganglia. Of such conducting apparatus and of an apparatus regulating them, nothing

is anatomically known. And, again, since the regulating apparatus itself would have to think, so again, it would have even to be a relatively perfect brain; but now, again, for every homonym and synonym, which there is in language, one such particular apparatus were necessary, and as soon as any one learned a foreign language, a new number of such regulating apparatus or secondary brains must arise in the brain. So, therefore, it does not work. But, perhaps, the matter permitted of being so thought that the identification of two concepts would thereby be established, that the ganglia attuned to these concepts made vibrations contemporaneously. Possibly there might be a ganglion attuned to every concept of quality; each thing would excite all the ganglia which corresponded to its individual qualities; each thing would, therefore, let an accord resound. The tones of different accords, which fitted harmoniously to one another, would then give the genus concept; *e.g.*, the common tones from the accords: cat, frog, louse, dog, horse, etc., would give the concept "animal," and now when the word "animal" resounds, this resulting accord of common tones would thus begin to chime. But unfortunately again, it does not thus work! For the preceding difficulty repeats itself; that, namely, with the reading or hearing adjectives of homonymous or several meanings there would first have always to be supposed a regulative conducting-apparatus. Or, if you here wished to make the auxiliary hypothesis: attune "right," in the sense of *quadratus*, harmoniously only with "angle," not with "hand" and "conduct,"—then "right, *dexter*," would at the same time have to harmonize with how infinitely many concept ganglia! since at least with every pair of things whatever a right and a left may be distinguished. And if every ganglia of quality tinkles harmoniously only with the substantive accord, to which the quality is essential, how stands it then with accidental and with opposite qualities? If the ganglionic accord "girl" chime harmoniously with the ganglion "beautiful," it will chime unharmoniously

with the ganglion "ugly;" but then (according to the pre-supposition) you could by no means realize the thought of an ugly girl. And how would you think the thought: "a black light is a nonentity," since the grammatico-subject-concept as a complex of two inharmoniously sounding ganglia could by no means chime? Indeed, how in this way should negative judgments have at all been capable of being realized? Possibly, you would have to assume a ganglion attuned to the abstract "not," which would resound in addition to the other two. Since, however, all may be denied, this must either at the same time chime harmoniously with all other ganglia (which is inconceivable, since the majority of the others are inharmonious toward each other), or—you must abandon the position, that only harmoniously attuned ganglia are able to vibrate contemporaneously, and therewith the whole attempt at explanation. Now there still remains the other assumption, that not in a tension or tuning, but in a chemical state, does quiescent knowledge consist. Every sense-perception, which leaves behind an impression as a reminiscence, would have to effectuate this thereby, that it left behind in the material mass of the brain-ganglia some one abiding alteration, a sediment, a precipitate. This, perhaps, might admit of being so thought that, *e.g.*, all calcareous combinations exhibited one genus of concepts, all albuminous combinations a second, all caseous combinations a third, all saccharine combinations a fourth, and since the genus-concepts are infinitely many, so then you would be authorized also to conjecture in the brain-ganglia an innumerable multitude of species of organic combination still unknown by us. This would just as little cause a difficulty as the assumption of many millions of milliards of years in the geognostic periods of modern science. In the sphere of the unknown the playroom for the phantasy is an infinite one. And as the modern school of physiologists has the "hope," that science will certainly even yet succeed in explaining mechanically all occurrences of organic life, so would you be

authorized also "to hope" that chemistry will even yet succeed in pointing out in the brain-ganglia of a corpse the former thinking substance of the no longer existing possessor. It were certainly the greatest triumph of science, if it were advanced so far as to read off the great contents of the knowledge of a learned man and the little of a menial servant equally in both brains, as—in the pipes of an organ the pieces which have been played thereupon! And should this not even succeed immediately, nevertheless—supposing the correctness of that chemical hypothesis of thought—there need be nothing impossible to prove at least the nationality of a dead man through an analysis of his brain-ganglia; for since the *copia vocabulorum* is, as it were, the material of all substance of knowledge, so it would not necessarily happen with justice, if a Frenchman, who his life long received purely French sounds reported through his auditory nerve and (in case he could read) French letters reported through his optic nerve, had not got a perceptibly different chemical state of his brain-ganglia than a Russian or Turk ignorant of French. But of course—here also a great *but* hobbles after. If the quiescent possession of a representation and the quiescent knowledge of a concept or judgment (of a proposition) consist in a chemical state of one or of several ganglia, the renewed execution of this representation, the renewed thought of this concept or proposition, must operate with it, must consist in a chemical process; from this would inevitably follow, that in every operation of thought performed with a concept, this concept would, according to its substance, be chemically dissolved and changed, whilst yet, as is well known, the representations and concepts, together with the entire material of knowledge, continue permanent, however much we may operate in thought with them. If, however, those precipitates should be not merely constituents of cells, but form (living) cells themselves, the chemical process of their regeneration (dissolution and formation anew) would have to take place unceasingly, then, however, would the man

have to continue to think unceasingly on all on which he had ever once thought, which, as is well known, is not the case. And, finally, for the casual friends of that hypothesis, the fact is quite disheartening, that in the nerves chemical and structural distinctions have not yet even been discovered; not only the nerves of sight, hearing, and touch, even the sensible and motor nerves, have entirely the same structure and chemical constitution. Only the organization of the ends of the nerves in the individual nerves of sense is different; the conductors, which are to "report" to the brain the different perceptions, are homogeneously without distinction. So much the less can a "material" or mechanical distinction of the structure or chemical composition be effected by them in the mass of the brain. The latter depends absolutely on the blood.

Obs.—Darwin (*Descent of Man*, i. chap. ii. p. 32, Ger. ed.) has, with usual thoughtlessness, made the hypothesis, that with intelligent beings the different parts of the brain "might be connected through its canals." But what is to assist these canals? In the simplest formation of a concept, even a plurality of perceptions is "not merely connected by canals," but is raised to synthetic unity; the singular is identified with the concept, the individual with the general, and at the same time also, in turn, is distinguished therefrom. In the sphere of corporeal organs, however, there is no plurality conceivable, which at the same time were not a unity; there might, perhaps, be many parts equal to one another, but then one always discerning the same as equal would still necessarily first exist along with them in order that it might come to the apprehension of the many in a unity (cf. § 32). Again, Is this discerning thing to be an individual corporeal organ? Then is there just one distinct from those many different organs, existing along with them, which can as little be identified with them as they with one another. If it is not said to be the corporeal organs, but movements or alterations of such organs, the case appears entirely the same; it is conceivable that twenty similarly affected organs execute equal vibrations or motions; but, firstly, there would again have first to exist a cognitive something, a subject which perceived these movements as equal, and, secondly, different kinds of movements would successively relieve one another, and thus it would remain incomprehensible

how, *e.g.*, in the conclusion of a syllogism the premisses could still be firmly held. As a corporeal organ can exist only in a single individual place along with other organs, and therefore cannot be identical with them, so a movement of this organ can only take place in a definite time, and not continue along with other kinds of movements of the same organ. Moreover, the fact alone that, if the one half of the brain become sick, even the other for itself alone may be able to perform the functions of thought, already serves for the refutation of all those materialistic hypotheses (see E. Hartmann, *Phil. d. Unb. c. ii. p. 339*; cf. § 59, *Obs. 1*).

§ 53. *The Reflective Consciousness in Antithesis to Quiescent Knowledge and Unreflected Thinking is one bound to the Activity of the Brain.*

Those followers of Herbart, as Lotze and Steinthal, who concede the existence of an "immaterial soul," are of the opinion: The "being conscious" (*conscium esse*) belongs to the "soul as an immateriality," whereas the wide sphere of the "vibratory representations" or of unconscious thinking is an activity of the brain. In its second part, this view has just now been proved as erroneous; before we pass over to the examination of its first part, we yet take notice of the fact: that in each moment we are always conscious only of one object of thought or perception, namely, of that to which we immediately direct attention. "Consciousness," says Steinthal, p. 132, "is a representing activity or an energy of the soul adding itself to the formed representations. And this circumstance, that we are constantly ever able only to be conscious of one object, is wont to be designated as the "narrowness of consciousness" (Steinthal, p. 143). But now that view, as if consciousness were an activity of the immaterial soul, unconscious thinking, on the other hand, an activity of the material brain, is in its first part as untenable as in its second, and directly the opposite is true, as admits of being proved by the most definite empirical experiences. That actual, *i.e.* reflective consciousness, turning itself with premeditated attention to a definite object, although indisput-

ably an act of will, consequently an act of the (according to § 39, incorporeal) subject, is, nevertheless, in its coming to pass bound to a normal (sound) condition of the brain, of this corporeal organ, *i.e.* is conditioned by the same. In order to understand this, we need only consider the two facts, (*a*) that the capacity, to be ever conscious of one object of thought after the other in quick succession (lively association of ideas, easy recollection of related objects), is considerably enhanced by a quicker circulation of the blood, that hence by a moderate enjoyment of spirituous liquors the flow of ideas follows quicker and easier, that, *e.g.*, even the capacity to express oneself fluently in a learned foreign language is enhanced in this state—and (*b*) that by greater acceleration of the blood circulation and by heating of the blood, as it takes place in inebriation and fever, likewise by brain diseases of different kinds, that capacity is disturbed and injured, nay, entirely annulled; that with a state of infirmity the “collecting of the thoughts” is rendered very difficult or becomes impossible; finally, that by a swoon, as well as by sound fast sleep, the consciousness of the external world is entirely interrupted. We must, therefore, acknowledge that that capacity to direct the premeditated attention ever to one object is conditioned by the co-operation of a corporeal organ, from which then immediately follows: that the incapacity to direct the attention to more than one object at the same time is a limit drawn by the corporeal organs, and that, consequently, there is a state of being bound to the body, in virtue of which our reflective thinking proceeds under the form of temporal consecution (of temporal transition from *a* to *b*, from *b* to *c*). It is, however, just as certain and evident that unconscious thinking, together with the nearest related quiescent knowledge (which both are included under the so-called “vibratory representations”), does not admit of being explained as an activity or state of the bodily organs. This has been proved in detail already in the foregoing paragraph. If, however, it is further asked, whether quiescent knowledge is

nevertheless not conditioned at least by the normal condition of the corporeal organs (of the brain), it must with a more rigorous examination of these be also answered with a no. It is, indeed, perfectly correct, that with diseases of the brain, as long as the sickness lasts, the extent of the knowledge sometimes shows itself limited and stunted (in so far as the sick person can no longer recollect many different things); but nevertheless from this nothing further absolutely follows than that his reflective consciousness is not in the position to make itself master of its present material of knowledge. But that this material of knowledge, this quiescent knowledge, is still present, even during and in spite of the sickness, results indisputably therefrom, that the convalescent person has no necessity first to learn again from the beginning, but all that which he has known before, he knows again. And in those cases where this is not fully the case no complete convalescence has even entered, but that incapacity of the reflective consciousness, to make itself master of its present material of knowledge, continues there in consequence of a cicatrized injury in the brain. Hither then also belong the cases of incurable aphrasia (not being able to find the word for known concepts). Even so belongs here the diminution or the complete vanishing of the memory in old age, which is no proof against, but absolutely a proof for our position. By apoplexy and brain-softening as by commencing marasmus (pressure upon the brain of the serum collecting in the cells of the brain) a state of sickness sets in, and here an incurable one which maims the operations of the reflective consciousness. But whether a sick state of the brain is curable or incurable, this is for our question incidental; on the other hand this is decisive, that if complete convalescence set in the quiescent knowledge exhibits itself as having remained intact (for which I might have known to name a series of quite definite cases). In trifling matters we experience analogues quite often; frequently we cannot absolutely recollect a certain name for a long time; that afterwards this name entirely of itself occurs to the mind

proves to us that it had not ceased to be present in our quiescent knowledge, and that only a momentary weakness of the bodily organs has hindered our reflective consciousness from making itself master of the same. If we now turn from quiescent knowledge to unconscious thinking, the example of the piano-playing (§ 51) already shows, namely, from the unconscious discovery of the correct fingering, that the point in question here by no means is of mere "representations," not even of a mere stock of quiescent knowledge and concepts already formed, but, moreover, is of an operation with these concepts, about judgments and inferences, consequently of a real logical activity, which executes itself independently of that reflective consciousness directed ever only to one object, and therefore cannot be bound to that organ in the brain, through whose co-operation the reflective consciousness is mutually conditioned. But from this it does not follow that unconscious thinking was not likewise mutually conditioned by the normal condition of certain (only just of other) organs; it is nevertheless a thinking over reported sense-perceptions (for as, *e.g.*, it receives through sense-perception the note-marks in that *prima-vista* playing, the sight of the pigments and of the rudimentary sketch in painting, the appearance of the persons to be met in the walk through the streets as object and material of thought)—and, secondly, it is nevertheless a thinking which, acting through the will, acts upon the *nervi motores*. Consequently the brain and nervous organs concerned in the report of sense-perceptions—and even so those concerned in the action of the will on the *nervi motores*—must be in a normal condition in order that that unconscious thinking and acting may be executed,—and in so far is the same co-conditioned by the health of the bodily organs. In other words, however, this nevertheless only means: unconscious thinking is no isolated island in the intellectual life, but enters into relation with perception and will—and even with reflective thought. In itself, however, it is no corporeal material process, it consists not in an activity of the brain-

ganglia or of other organs ; bodily organs are not what produces or executes unconscious thinking and acting, since (according to § 52) no bodily organ but (according to § 32 ff.) only the incorporeal (because continuing unalterably the same with itself) subject is able to form concepts, to seize and operate with them. But now, possibly, we do not find that intellectual activity occurring behind the reflective consciousness only in those isolated cases ; but similarly, as in bodily seeing the involuntary perceiving of the entire field of vision continually takes place along with the intentional looking towards one point,¹ there unceasingly takes place an unconscious, or better, an unreflected thinking and acting in the intellectual domain along with that thinking always reflecting upon one object, *e.g.*, in the suitable avoidance of stones over which one might stumble in walking, whilst the reflective consciousness is occupied with entirely different matters, *e.g.*, with an interesting conversation, or, in perceiving and recognising, and plucking off an interesting flower on the way during the same conversation, and more such.

§ 54. *Genial Production.*

To the same domain, however, belongs also the entire sphere of the higher intellectual productivity. It is the sphere of genial anticipation, which stands confessedly so infinitely high above the reflective thinking. For what the school of Herbart names "consciousness,"—that attending first to *a* and then to *b*,—which we have more correctly designated as the "reflective consciousness," and would designate it still more correctly as the "reflective being-conscious (being conscious

¹ In the retina, near to the disemboisement of the optic nerve, there is the yellow spot, which possesses the highest degree of sensibility toward optic excitations. The intentional looking towards one point consists therein, that the pupil of the eye is so turned (focused) that the rays from this point falling upon the eye reach the yellow spot. The optic excitations (rays) from all other points of the field of vision, reaching the remaining surface of the retina, are involuntarily perceived, *i.e.*, described along with them.

of objects);" for it is not the subject itself, nor even any one substantial part of the subject, but it is solely one of the forms under which the subject is able to be conscious of objects. (Nevertheless you can always designate the permanent capacity inhering in the subject, to be conscious of objects under this form, as "reflective consciousness," as we have done, § 52.) Now the subject conceived in reflective being-conscious, like the devouring caterpillar, creeps from point to point, and never gets above this linear locomotion. This non-genial, though very necessary and honourable labour of scientific research or artistic production, arrives toilsomely, through searching or conceiving and then combining of the smallest details, at the gradual composition of the whole. Quite otherwise do genial anticipation and production proceed. Genial conception, says Hartmann, "receives the whole in one gush as a painless gift of the gods." It is that *μανία θεία δόσει διδομένη*, of which Plato says (*Phædr.* p. 244 f.): "*Ὅσῳ τελεώτερον μαντικὴ οἰωνιστικῆς, τόσῳ κάλλιον μαρτυροῦσιν οἱ παλαιοὶ μανίαν σωφροσύνης, τὴν ἐκ θεοῦ τῆς παρ' ἀνθρώπων γυγνομένης.*" The poet (if he is a true one) is seized suddenly by an idea (without having reflected thereon); the poem, the narration which is to become the drama, rises in his mind as an armed Pallas, as a finished world; a hundred threads, a hundred relations with one another, are given to him; he knows at one glance the fabula of the poetic work of art which he will produce in all its chief traits; still the whole lies before him as in the morning twilight—but the whole! The particulars are still obscure to him, but one after another emerges before him out of the nebulous vapours; the actual production of the work of art consists solely in the overhearing these voices which he perceives, in the seizing of these forms which he beholds; he does not make the poem, he hears it; the reflective consciousness makes itself master of the work of art which the genial unconscious thinking has produced; the reflective consciousness acts receptively towards that productive kingdom of unconscious thinking, whilst it

seeks with careful foresight to fix and comprise in words the single parts and relations of that whole. Every true work of plastic art, every truly genial musical composition, originates in an entirely analogous manner. Thus Mozart has overheard in one night the overture to Don Juan. It is, however, entirely analogous also with scientific discoveries. In genial anticipating, first the end to be attained with the problem and the correct way thither float before the intellectual eye of the discoverer, and step by step he is reflectively conscious of the way to this end. Even Steinthal acknowledges this in his way, when he (p. 239, § 270) says: "The unified character of a school of artists is determined by the 'vibratory representations,' which may be present to the members of this school." Only they must be called "ideas," instead of "vibratory representations." For the products of that unreflected genial production are just ideas.

Obs.—Soul and (reflective) consciousness are already plainly distinguished in the Avesta (*Yacna*, 54. 1).

§ 55. *Intellectual Contents, Talent and "Personalities."*

There is (according to § 53) a limit caused through the state of being bound to the bodily organs, that the reflective consciousness can ever be directed only to one object (more exactly: only to few objects at the same time, inasmuch as in the judgment the grammatical subject is still thought along with the predicate, in the syllogism the premisses with the conclusion, even in the concept the disjoined qualities are already bound up in unity). This synthesis, this summing up of a plurality of objects of perception, representation, and thought, is directly explained, as we have now sufficiently proved, not from an activity of any bodily organs whatever, but absolutely only as a genuine independent activity of the subject, which is incorporeal, and therefore continuing unalterably the same. That we are in the position to seize reflectively only one or few (and sometimes, as in fast sleep, in

fainting, none at all) objects, this is caused through the state of being bound to the body; the corporeity acts as a barrier confining consciousness within the narrow limits of successive states. On the other hand, it is peculiar to the nature of the subject, of the mind as such, to span and sum up the many in unity; to disjoin the unlike, to combine the like for concepts in unity, the concepts in categories. Already in reflective thinking these operations are explained solely as actions most peculiar to the subject as such (not of its corporeal organs of thought, cf. § 52); and thus then it must necessarily belong to the nature of the subject as such, when man in quiescent knowledge bears in himself a very powerful, rich, extensive, and organically ordered intellectual contents, which he has gradually appropriated to himself through reflective learning (cognition) and thinking (conception), and which he still daily enriches, and with which he operates—partly in the form of reflective thinking, partly in that of the so-called “unconscious” thinking (and acting), and eventually also of genial production (which of course is not an affair of every man). We say “an organically ordered intellectual contents;” for it is not a sand-heap or chaff-heap of isolated observations, which would have nothing to do reciprocally with one another, but a multitude of concepts and propositions (judgments), which are connected according to categories and form one great whole. This intellectual contents is not acquired without co-operation of the body; the organs of sense furnish to us in perceptions the material of cognition, *i.e.* the objects to be known; reflective cognition (through the forms of concepts, judgments, syllogisms) is a genuine activity of the intellectual subject, nevertheless, as reflective it is conditioned also by the activity of the brain; both factors act together in the acquisition of the intellectual contents; the same, however, has its continued existence—independent of the reflective consciousness, and consequently of the body—in the subject as such; this has been proved to us already, § 53, by the state of insane persons restored, but has equally

so been proved by a fact occurring daily with every healthy person: by sleep. In deep sleep our reflective consciousness is completely extinguished; in less deep, it is confused and furnishes us with reveries which are often enough deranged; as soon as we awake, our intellectual contents again stands intact, and we may again reflectively take possession thereof. But now every man acquires his intellectual contents in his own way; the one learns much, the other little; one appropriates to himself historical knowledge, another natural historical, a third juridical, a fourth mathematical, etc. Thence follows, that the intellectual contents of individual men is individually different, and along with the will, co-operating in its acquisition and again influenced by that which has been acquired, exactly constitutes the individuality. Moreover, man is not absolutely free in this acquisition of an intellectual contents; an inclination to a definite object may, along with a genial endowment for it, possibly inhere already in the subject as such from the beginning of its existence on; but, at any rate, it is certain that reflective thinking is the means for the acquisition of the intellectual contents, and that the same is directly dependent on the bodily organs of thought, and also conditioned by their condition. And thus then different men, in virtue of their bodily organization, have also different talents; with one reflective thinking proceeds quickly, with others slowly; to one, it becomes easier to direct his reflection to the observation of sensible objects, to another to historical, to a third to abstract objects. The individuality filled with intellectual contents we designate as the personality of a man, by which it is evident that to the intellectual contents belong not merely the judgments (themes) of knowledge, but also the principles (maxims) of action that have sprung from the will, and in turn react upon it.

Obs.—Upon the distinction between intellectual contents and reflective thinking, E. v. Hartmann has built his Philosophy of the Unconscious. He quite correctly names the intellectual contents, with its intuitive and genial thinking, a “brainless

thinking;" he recognises, namely, that only reflective thinking is bound in its execution immediately to an officiating of the bodily organ of thought (it is, according to § 54, unconscious thinking only in its presuppositions and in its influence upon the will). But what false conclusions Hartmann builds upon these correct premisses will be examined and illustrated under Book II. § 186.

§ 56. *Summary.*

We have now run through the whole extent of our cognition of the (external) world on all its sides and relations, and in this way there has been proved to us the negative, that the subject which is conscious of itself and of the world cannot be a mere function of corporeal organs—cannot be a result of corporeal occurrences. Let us turn back once more to the first of all the points of departure of these investigations, to § 23, where we cited the fact that the most primitive being-conscious in human life consists in a sensation of pain. Hence the independent reality of the sensitive subject in opposition to the nervous apparatus of the body exciting the sensation is perfectly evident. For a certain galvanic current in the nerves cannot possibly at least feel itself as a pain, *i.e.* feel itself as one to be found in hostile dissension with itself. It cannot be that which is exciting the sensation and, at the same time, also that which is feeling even this sensation as adverse. The galvanic current is unconditionally identical with itself; the pain-feeling subject, however, is not identical with the current, but feels it as one adversely opposed to it, and therefore distinguishes it from its own body. Consequently, the negative, that the subject is not a result or a mere function of the corporeal organs, is unconditionally certain. From this negative there then follows immediately that dualism of body and soul, with which Kant, Fries, Herbart, Lotze, etc., have stood still and have rested satisfied, and with which also one of the most modern Christian apologists, Chr. Ed. Baumstark, rests satisfied. According to this, man consists of two "constituent parts:" the body with its organs of sense and

the immaterial soul as the subject. According to the results up to the present obtained by us, there is the property of the bodily organs: To convey to the subject in every moment of time ever some one complex of perception as an object of the external world, consequently ever always a representation, and, in virtue of its being bound in the body, the subject on its part is able likewise to direct its reflective attention ever only to one or few objects at the same time; on the other hand, in virtue of its own intellectual nature, namely, of its unchangeable self-equality, the subject is able, in the formation of concepts, judgments, syllogisms, to sum up an unlimited multiplicity (even the concept of totality) in a unity. It brings also out of itself to these operations the categories as purely intellectual forms of its intellectual activity. The subject, however, stands toward the external world not merely in a receptively cognitive relation, but also in a volitional one, and as willing and acting (effectuating) constantly establishes beginnings of new series of causality. But with its will it also reacts upon the domain of cognition in the intellectual activity of symbolizing, above all in language; and finally, will and cognition act together, in order, in the manner of the reflective consciousness bound to bodily life, to give to the subject an intellectual contents which, as such, is not dependent on the life of the body, but in itself completes its own intellectual life, and constitutes the personality.

B. KNOWLEDGE OF SELF.

§ 57. *New Problems.*

He, who now wishes to rest satisfied with these results, may do it on his own risk. Even these results would certainly necessitate us in the end to the question of the ultimate cause of all being, and we would not well be able to imagine this cause, positing ends, otherwise than as an intellectual one. For, since we find laws in force in the universe, chiefly indeed

in nature, since, however, a law, according to its concept, is valid not only in a single case—but generally and always, and since now the capacity of apprehending diversities under a unity inheres even exclusively in the subject, whilst corporeal (or so-called material) being, namely, composition from the smallest individual particles, does not come out beyond the individuality: so it would by no means be understood, how, through the multiplicity of corporeal things and through the juxtaposition of their smallest parts, a generally valid and administrative law, even but a law of nature, should ever have been intended to be brought about. If, however, it can only have been a subject which spanned the multiplicity of individual cases with the unity of a law, it would follow further from the essence and concept of the subject as such, that the same would operate according to the category of reason, of end and means, and not according to that of mere causality. And so in this way, the idea of a volitional, cognizant, consequently of a living God would constantly be constructed, though the further and indeed more difficult problem would, nevertheless, still always follow: How then does this existing subject, God, stand in relation to the dualism of matter (see *Obs.* 1) and mind, and how the going forth of matter, non-existing mind, from God, the existing Mind, is to be made conceivable.

Obs. 1.—According to what was said in § 26, it follows as a matter of course, that we here understand under “matter” not a substance, but a form, not an entity without quality and without determination, which were the substantial “bearer” of all “qualities” or “powers,” but that form of being, in virtue of which existing complexes of powers stand under the laws of natural necessity, and consequently under the category of mere causality, but herewith also succumb to continual mutation. The problem is therefore so far defined more approximately: How is it to be made conceivable that a first cause, being itself unalterably the same, consequently a subject, causes (calls into existence) two kinds of existing essences, such, which are subjects like itself, *i.e.* themselves unalterably the same, and therefore stand in a cognitive, volitional, and active relation, and under the category of reason of end and means—and such,

which are unlike itself, stand under the category of mere causality, and therefore are included in incessant mutation, and consequently are incapable of reminiscence, of being-conscious, and of cognition?

Obs. 2.—We have in the above paragraph treated the existence of natural laws as a generally conceded fact. Besides, it is nothing less than unknown to us that the “realistic,” *i.e.* materialistic philosophy, has soared to its zenith to the position (also accepted by E. v. Hartmann): that the existence of natural laws cannot be asserted with certainty, because there is no certain cognition at all, but everywhere merely greater or lesser “probabilities.” You may know, *e.g.*, only a very great number of cases, where earthly objects were attracted by the terrestrial globe, lesser heavenly bodies by greater, and thence have drawn the conclusion of an incorrect method, that this attraction is ever taking place and must take place, and this you name a “law of attraction, whilst yet in truth no knowledge of a law,” but only the assumption of a high probability lies before you.—Such talk is an hypocrisy, in comparison with which all hypocrisy of the Pharisees was an innocent child-play! an hypocrisy in the mouth of the same people, who, with the “inviolable validity of natural laws,” take the field against the “miracles” of Christianity, against the existence of God, nay, against that of a soul, and in hundreds of popular writings and periodicals tell the people that “science” has proved the non-existence of God, soul, personal continuance, etc. We must couch a lance against that self-abuse and self-prostitution of the natural sciences. The certainty of a natural law does not follow from the empirical totality of single cases,—for an empirical totality is, as such, a nonentity, see above, § 34; the totality is never empirically given,—but from the concurrence of the operating causalities. Not in “very many” cases has attraction been observed, but, in the first place, there is no case where it might not have been observed (all bodies have a certain specific gravity), it is observed consequently in all those cases, which in general are empirically perceived, and, secondly, the mass is recognised as a cause of attraction, and the law, that the attractions which two bodies exercise upon one another are in proportion to their masses, and the further law, that the strength of the attraction is inversely proportional to the square of the distance, has been observed not at any time only in an empirical and *à posteriori* manner (Achard), but also perceived in thought as necessary in itself and deduced *à priori* from mathematical premisses (Newton). The other laws of nature are analogous; let one only call to mind the laws of the lever, of the inclined plane, of accelerated motion in falling, of the centre of gravity,

etc. That one such discovered law ever afterwards confirms itself anew in all those single cases which are still further observed, is only the proof of the example. The certainty comes not from the proof, but from the knowledge, that the law, with reference to whose discovery the empirical observation of single cases gave the occasion (because it urged to the question—§ 36), dovetails itself harmoniously into the organic complex of the logical and mathematical laws of thought and to the laws of nature already known otherwise, nay, admits of being deduced therefrom with necessity. This, and not the mere enumeration of cases, is the true nature of the proof from induction. Wherein then lies, *e.g.*, the certainty of the correctness of the Copernican system? No one has yet empirically observed the same; it can never even be empirically observed; it is in itself nothing but an hypothesis of explanation; but the agreement of the laws derived by Kepler from *à posteriori* observation with mathematical thought on supposition of the Copernican system, with the general laws of attraction found *à priori* by Newton, as the agreement of the rotation of the earth upon its axis assumed by Copernicus, with the general law of the “power of inertia” in the phenomena of the pendulum experiments¹ of Foucault, gives us the certainty of the correctness of that hypothesis. And, finally, that mathematics itself thanks no empirical observation for its certainty, proceeds indeed from the simple fact, that no man has empirically seen before him an imaginary number, or two parallel lines intersecting each other in infinitude. And yet the binomical formula of Moivre and the “Geometry of position” possess unconditional certainty.—Were that experiment of Foucault twice as often repeated as till the present it has already been, the certainty would not thereby become a hair greater. Indeed, the most beautiful of all is, that it cannot by that calculation of probability come to the very smallest degree of probability. For, since the number of all possible cases is infinite, that of the investigated and established cases—however so much it may increase—remains always but finite, there is thus ever only an infinite minority ($\frac{x}{\infty}$) of cases investigated, and the probability, that the infinite majority

¹ If the earth turns round its axis, every meridian of its surface must alter continually its direction in absolute space (and indeed the nearer to one of the two poles, so much the more; only under the equator is the direction permanent). A free oscillating pendulum, however, retains (according to the law of inertia) its direction in absolute space. If you so place a pendulum in motion that it now oscillates in the direction of the meridian (towards north and south), in a short time its direction of oscillation must deviate from that of the meridian. Foucault's experiment proved that this is actually the case.

of the still uninvestigated cases will furnish the same result, is and remains infinitely small, since a conclusion never indeed admits of being drawn from a small minority to a great majority.

§ 58. *Self-Consciousness independent of the Cognition of the External World.*

In truth we cannot rest satisfied with the facts of our cognition of the (external) world alone. It is, indeed, not even true that we were conscious merely of the external world, that we cognized it alone by means of the categories lying within us, received it alone as an intellectual contents into ourselves. Even the fact that we have developed those categories, shows us: we are conscious also of our being-conscious. Nevertheless, it does not at all need so much as a scientifico-philosophical deduction of the doctrine of knowledge in order to perceive this truth. Not merely in philosophic thinking are we conscious of our being-conscious; but with all, which as sense-perception enters into us, or as reflective activity of thought occurs within us, are we continually conscious of our self as of one continuing absolutely identical with itself, and distinguish this "ego" from the changing occurrences of our reflective consciousness. In this "ego" itself, however, there is in turn given a consciousness, namely, just that of absolute continuing identical with itself, a consciousness more profound in principle. If under "consciousness" is understood in the usual manner the reflective consciousness, "ego" and "consciousness" are two things different *toto coelo*; the ego is a consciousness of the self continuing the same, a consciousness lying behind the reflective—*i.e.*, directing itself to particular objects—consciousness of the external world, it is self-consciousness. To this consciousness of self we are necessitated to ascribe an absolutely uninterrupted existence. In common life you indeed say of one who is fainting or asleep, he has no self-consciousness, he "is not conscious of himself." This, however, is downright nonsense. The fainting person, like the sleeper, has no reflective consciousness of the external world;

the senses report to him no perceptions; the consciousness of self he has as certainly as he has an intellectual contents (§ 55); for that ego, that self-consciousness, is in truth just the subject of quiescent knowledge and unreflected thought, is that which is cognizant and thinking in both. Reflection upon the ego-hood may be interrupted by sleep or a fainting fit, but as soon as both are over, the consciousness of being an ego, and indeed the same ego as before, again exists intact, and indeed now again as reflective; this would not be possible, if it had not in the meantime continued as unreflected, quiescent, immediate; for had it absolutely ceased to exist, it could not in truth afterwards again form connection with itself; I could not be conscious on awakening from sleep that I am still always the same that I was in sleeping. The consciousness of self as a quiescent knowledge of self has continued. Were it a product of widely different psychical occurrences, a product of representation produced by sense-perceptions, and should it be only these representations which, during sleep (and we wish to assume this as deep, dreamless) or a fainting fit, continued as "vibrations" or "tensions" or "chemical states" of the brain ganglia; so after awakening every time there would always be formed from these factors a consciousness just now beginning its existence, consequently new; but, for this reason, this could not exactly be a consciousness of the identity of the awaked with him who had fallen asleep yesterday evening. He would feel himself as another, as an ego that has just now first originated, and that the ego of yesterday has possessed the same contents of representation and of knowledge as the ego that has originated to-day, he could by no means know, since, in truth, only the representations as objects would have remained the same, the subject perceiving them would but just now for the first time have entered into existence, and just now for the first time have taken possession of these objects, consequently he could know absolutely nothing thereof, that yesterday also an ego has already had the same objects for its contents. That I have

borne the same name, have been in the same city, had the same knowledge, yesterday as to-day, these I can only know to-day, if I am still the same ego and have continued to exist as this same ego. Now you might possibly make the objection: "My consciousness is indeed interrupted by sleep from the appearance of the furniture of my sleeping-room, and, notwithstanding, I recognise on awakening this furniture as the same; wherefore should even my consciousness not have thus been capable of being interrupted by me, and I, notwithstanding, been able to recognise my ego as the same?" But this objection transforms itself directly into the strongest proof for our position. If I am to recognise my furniture as the same, it must also have remained actually the same, must as the same have continued; if one had carried it away during my sleep, and placed another in its place, I would not even recognise the latter as the same which existed there yesterday. Consequently, considered even as an object of my consciousness, my ego during sleep must have continued as continuing the same, in order that I may be conscious of this my ego as the same. And now, secondly, it comes to this, that I, nevertheless, would not possibly be in the position to recognise that furniture as the same, although, on its part, it stood still unchanged in my room, if my ego, as a cognitive subject, were not continuing the same and unalterably the very same which yesterday perceived this furniture, and again, to-day, perceives it. For only as a subject that has continued identical with itself is it able to compare both those consecutive perceptions of an object.

§ 59. *Self-Consciousness independent of the Body.*

While, now, self-consciousness continues to exist independent of our reflective consciousness of the external world, it exists also independent of the bodily organs of thought. With the most diverse corporeal-psychical states, abnormal as well as normal, the continued existence of self-consciousness is demonstrable, nay, as yet much easier demonstrable than in

deep dreamless sleep, where the same contracts¹ itself—because the distinction of the ego from a non-ego or object reported through the senses falls away—to a knowledge of self that is not subject to time (cf. § 30). In dreams, indeed, it appears immediately clear and distinct. Where in the world he is, this the dreamer does not know; he knows not that he lies in bed; and frequently one, whose nearest relative has died, knows nothing at all in his dream thereof in the night following thereon, and only on awakening is he painfully enough reminded of what has happened,—the senses report no perceptions of objects,—but who he himself is, this the dreamer knows; he is still himself, and, moreover, he dreams in concepts, and in his dreams speaks in concepts. (Thus I once dreamt, some one brought me the news that N. was elected king of X., and I exultingly cried out in the dream: “This is grand; this N. is one of my most confidential friends.” Here we have the concepts: king, electing, grand, friend, confidential.) Concepts, however, presuppose the ego identical with itself, which alone has the power to form concepts and to operate with them. It is not otherwise with the abnormal states of sleep-walking and somnambulism. When a young man I knew an elderly lady entirely of a prosaic nature, on the other hand, who in fits of sleep-walking in the darkness placed herself at her desk and wrote very pretty poems, which to her own surprise she met with on the next morning. When in Zurich in 1844 I for the first time entered the shop of the Nægelian Musical-lending Institution,

¹ Hence, then, we have on awakening from sound, deep, dreamless sleep no consciousness of a duration of time traversed in sleep, but our reflective consciousness connects again to the moment of falling asleep. Sometimes one awakes actually with the delusive feeling that he has but scarcely fallen asleep, cannot have slept for five minutes, and then first persuades himself of the contrary by the sight of the clear dawn. Now because the reflective consciousness of him awakening from sleep perceives, that during sleep a certain time has elapsed, but nevertheless he finds in himself no consciousness of a traversed duration of time, so he arrives at the delusive fancy, namely, consciousness has not at all been existent during sleep. The consciousness of self, but not as subject to time, was certainly existent.

a somnambulistic girl, perhaps 13 years of age, who was then in the Nægelian house, and of whose existence I had already heard by public report, but whom I had seen as little as she had ever seen me, came, springing into the shop, whilst I sorted the music, and asked me: "How is thy wife? Is she better?" (My wife had actually been overtaken by a slight indisposition on that morning.) Here we have the concepts: wife, getting better. And as the clairvoyant thinks and speaks in concepts, so he is also cognizant of himself, and never confounds himself with his magnetizer. The distinction of the somnambulistic and clairvoyant from the normal, waking states cannot, therefore, be sought in a deficiency of self-consciousness, but only in another kind of mediation between self-consciousness (the ego) and the external world, in another kind of perception of the external world, namely, in one not mediated through the organs of sense, consequently in a state of relative disengagement from the body. With the insane even the consciousness of self exists intact; the reflective consciousness, because co-conditioned by the brain, is disturbed by brain disease (§ 53), but the insane just as the intoxicated, or he who is delirious with fever, immutably holds fast his ego; though he, affected by a fixed idea, declares himself to be a king, or God himself, or a murderer, or a spinning-wheel, his very declaration: "I have killed my wife," "I am the Emperor of Brazil," shows that he, along with the perverted predicates which he attributes to himself, holds fast his ego as subject. And now also a full light first falls on that province (considered § 51 ff.) of quiescent knowledge, of unreflected thought and action, and of genial production; only now are we able to apprehend aright these functions as immaterial, incorporeal (which indeed have received hence their material of thought from the senses and reflected thinking, and on their part again act upon the will and through it upon the *nervi motores*, in themselves, however, are conditioned by no activity of bodily organs); activities of self-consciousness are plainly independent of the body.

Obs. 1.—The immateriality of the self-conscious ego Lotze, Steinthal, Helmholtz acknowledge; the first-named deduce it quite correctly from the unalterable self-sameness of the ego. All parts of the bodily organism are conceived in constant alteration (change of substance by assimilation and secretion); if self-consciousness were a part of the brain or a function of such a part, the continuing identity of the same with itself were plainly inconceivable. Du Bois-Reymond also (*Ueber die Grenzen des Naturerkennens*, Leipz. 1882, p. 25 ff.) pronounces it a "delusion" to think that, "through the knowledge of material occurrences in the brain, certain intellectual occurrences would become intelligible." "What conceivable connection exists between definite movements of definite atoms in my brain, on the one side, on the other side, the facts: 'I feel pain, I feel pleasure, I hear a sound of an organ, I see redness, and the certainty just as immediately flowing therefrom: therefore I am—'? It is even positively and for ever inconceivable that they should be equivalent to a number of atoms of carbon, hydrogen, oxygen, as they lie and are moved, as they lay and were moved, as they will lie and will be moved. If their mode of stratification and motion were not to be equivalent to them, you would have to consider them already individually endowed with consciousness. Therewith neither would consciousness at all be explained, nor the least gained for the explanation of the unified consciousness of the individual. That it is, moreover, impossible, and will ever remain impossible, to understand higher mental occurrences from the mechanism of the atoms of the brain, presupposed as known, needs no demonstration." With the most perfect right, therefore, Du Bois-Reymond here discerns "a limit of natural cognition," i.e. of natural scientific cognition. Those savants of nature, who, from the limited domain of their science, judge concerning being or not-being, of the spirit, the ego, etc., and publish their verdicts, or claim to forbid us to draw positive conclusions from that negation (namely, the inexplicableness of consciousness and of the ego from so-called material occurrences), should take note of this. And, moreover, Wigand has so (*Darw. u. Naturforsch.* vol. ii. p. 433 ff.) far excellently proved that Du Bois-Reymond still draws the limits of natural cognition far too wide. The true limit of natural knowledge is this, that absolutely only the quantitative relations and effects admit of being reduced to laws; the qualitative, however, are hereby presupposed as given, and are not further to be made explicable, e.g., "Mars—presupposing this definite distance from the sun, and so forth,—must have this definite velocity. But why it has this definite distance, magnitude, inclination of axis and orbit, we cannot

understand ; it is a simple fact of experience." " We know the law of attraction ; why it lies in the nature of matter to be mutually attracted, of this we have not the slightest presentiment." "The relation between crystal and plant, plant and animal, animal and man, the changing material of sensation and mind, rests upon qualitative differences, and this is the reason why the one form of existence cannot be explained by the other."

Obs. 2.—E. v. Hartmann acknowledges the existence of somnambulism, but, in a confused way, makes it the same as animal instinct, which, indeed, is also an unconscious clear-sightedness. Therewith, however, he has overlooked that, with instinct, the clear-sightedness belongs not to the animal ; for it is neither conscious of the end nor of the suitability of the means ; in instinct the acting subject (the animal) itself is not clear-sighted, but a creative power acting upon the will of the animal with unavoidable force, which has implanted in the nature of the animal that order of excitation as a law of life, which, however, in itself must necessarily have its existence outside and beyond the individual animal. The concession, that this creative power is a " clear-sighted " one, we accept. But in clairvoyance there exists no resemblance. For in the latter the acting subject (man) is himself the clear-sighted subject.

(a) THE SELF-CERTAINTY OF THE EGO.

§ 60. *The Ego is absolutely certain of itself.*

Since the ego is that which is cognizant of itself as absolutely identical with itself, it is that which is certain of itself, and consequently there belongs to it unconditional self-certainty. The subject, which as ego knows itself as an ego, knows itself, therefore, as that which is existing unconditionally as its ego (or as itself). I exist unconditionally as myself, I am certain of myself. Knowledge and being absolutely coincide in the ego. My ego knows itself as a something existing, and is a something knowing itself ; both sides are by no means to be separated : the being knowing itself—the knowing itself as being.—Can I then now predicate the same certainty of the affirmations or contents of my knowledge of the external world ?

Can I ascribe to the objects of the external world being in like sense and in like manner? Never. Of the things of the external world, I know with certainty absolutely nothing further than that they are perceived by me; even of my own body itself, so far as it is a thing among other things, I know only that it is perceived by me, the subject, by the ego (that I see my body and my limbs, feel my whole body by touching with my hands, hear my respiration, words, steps, and that I feel corporeal pain, and indeed as something adverse). But now the relation between me and objects is thus completely inverted; I (the ego, the self-conscious subject) am not in the world, but the world is in me, the ego, the subject as such, which here has already distinguished its own body as an object from itself. Of the external world, the world of objects, I do not absolutely know that it exists, and whether it exists, whether it has a being outside of me, a being in itself, but know absolutely only, that it is my contents, contents of my perceiving, representing, concept-forming, thinking. The ego exists, and the non-ego exists only in the ego and only as the ego.—We have here reached the standpoint of “abstract idealism,” the doctrine of the ego by the elder Fichte (which in essentials coincides with the “*dubito ergo sum*” of Descartes, as well as with the system of the Irishman Berkeley), a doctrine, which has been far oftener laughed at and ridiculed than understood, which, indeed, has been even so sillily misunderstood, that it has been reproached with making “egotism” the principle of the world and of philosophy! But with the ethical, *i.e.* the will-defect of egotism, the knowledge, that the personal subject is that which is absolutely certain to itself, has not the least to do. Some have also had the foolishness to cast on Fichte the reproach, that he imagines he alone exists, and all other men along with the universe are only represented by him (so understands, *e.g.*, E. v. Hartmann, *Phil. d. Unbew.* vol. viii., Fichte’s system!); such nonsense, however, Fichte has not said; but he has placed the demand on himself and on every thinking man to

perform the simple operation of thought: to become clear to himself that the subject is absolutely certain of itself, and knows itself unconditionally as existing, while of all objects, it knows absolutely only that they are objects of its perception, cognition, and volition, but not, that they are in themselves. (Thereby it is evident, that ever for one subject all other subjects besides are only objects—which are only perceived so far as they make themselves known through their bodies, although they, each for itself, are subjects. One ego cannot see and perceive the other ego as such, but perceives only its body. Each of us therefore knows himself as unconditionally existing, all others he knows as perceived, whose bodies he sees and hears without himself.)

Obs.—Still Descartes has not apprehended this thought in such exactness and clearness. He proceeded (in his *Inquisitio veritatis per lumen naturale*) from the known and conceded fact, that sense-perceptions may deceive, that even scientific observations of nature are exposed to manifold optical and acoustic deceptions, that in the explanation of perceived facts the physicist and naturalist go widely apart, that equally so historical knowledge and research is exposed to many errors, and thus he came to the conviction, that all knowledge, gained in the way of *experientia*, is affected with doubt. But in the act of *dubitare* itself, he now found the point of self-certainty: “Me esse scio, et hoc inde scio, quia dubito. Cognosco, id, quod sum quatenus dubito, omnino illud non esse, quod corpus meum appello.” That *dubitare* is a *cogitare*, “atque cogitationem solam istiusmodi esse comperio ut (eam) a me sejungere nequeam.” It is therefore, even with Descartes, the subject which, in its quality of subject, apprehends itself as that which is certain of itself, though still Cartesius has not rigorously enough elaborated and abstracted the clear self-knowledge of the ego from the general activity of the *cogitare* (which, indeed, includes in itself also a knowledge of another, *i.e.* has reference to the external world).

§ 61. *We perceive not Things, but only Effects.*

Fichte's abstract idealism is the point of beginning and ending of all deeper speculation having reference to the facts of self-consciousness (the ego). It only needs further development.

All is not yet done with the abstract knowledge of the self-certainty of the ego, which knows itself as existing, while it is that which is knowing itself; rather is it now further asked: How then comes the ego to that non-ego, to that world, which it perceives as an apparent, external world, whilst, nevertheless, it can only say of it with certainty: "It is in me"? The nearest, most trivial answer would be: Through mediation of the organs of sense. With this, however, two different things are to be remembered. (A) Firstly, and above all things, physics itself teaches us that the organs of sense declare to us absolutely nothing of things existing without us, but convey to the brain only excitations, and by this means call forth sensations in us, which we project into space without us. Let us hear the most celebrated and honoured physicist of our time, Helmholtz. In his *Handbook of Physiological Optics*, p. 144, he says: "We perceive no quality of bodies, but only effects. The red colour of vermillion exists only so far as there are eyes which are constituted alike to those of the majority of men." (As is well known, there are men who cannot distinguish red from green, the strawberry from the strawberry leaf.) There is in objects no red colour, but the optical effect issuing from them, according to the view which has been customary¹ since Newton; a transverse oscillation of the particles of ether, which propagate themselves lineally from every point of the object unto our optic nerve—evokes in us (but, as mentioned, by no means in all men) that subjective sensation, which we denote in the English language by "red," in other cases by yellow, green, blue, etc., and accordingly we so represent to ourselves a coloured image as if it lay without us; we project into space the sensations of colour excited in us. Helmholtz says, *l.c.* p. 428: "We constantly represent to ourselves by a physiological act such objects as present in the field of vision, as

¹ Objections have been raised recently against this theory by Warmann (*Researches on the Nature of Light and Colour*, Leipz., Brockhaus, 1879), which at least might have been considered worthy of refutation.

they would have to be present, in order to produce, under the usual normal conditions of the use of our eyes, the same impression upon the nervous apparatus, which we exactly feel." (Thence the possibility of optical delusions.) "There are unconscious inferences and indeed analogical inferences." And p. 439: "When we see an object of vision" (have an optical sensation), "we are thus necessitated to transpose it into a definite place of space. That which Helmholtz here says, however, of the perceptions of sight, is valid likewise of the perceptions of hearing. There is no sound without us and no accents and tones, but oscillatory waves of the air, which through our auditory nerve first calls forth in us, the subjects, the subjective sensation of sound and tone. But, finally, the same is valid also of the perceptions of touch. When we stretch out the hand in the dark and meet with resistance, we believe, we are quite certain, that a body, a material mass, is there. This sensation of resistance, however, first takes place within us. How much even the sense of touch may deceive, the simple experiment shows, if you place the fourth finger over the third, and then place a pea between the tips of both fingers; he then feels two peas! With all this we do not possibly claim to prove, that an objective thing without us, which sends to us those effects, does not exist (that were, in the highest degree, a hasty and false inference!), but positively only this: that we do not perceive things as such, but absolutely only effects. We see, hear, and feel (*tangendo*) not the objects, but we see, hear, and feel effects, which come from without to our nervous apparatus, and excite certain sensations and herewith representations within us. Now, first, it is asked: What kind of a conclusion admits of being drawn from these effects to that objective thing existing without us, which causes these effects? Do things or powers admit of being inferred? Those effects must undoubtedly have a cause. Does the cause (as Fichte, building at first on a wider foundation, assumed in his abstract idealism) lie in the ego? Certainly not in my and thy

individual ego! For the individual ego of individual men produces not the world, but meets with it as one opposing, often enough, his will and wish, as one simply given for it, as a world, whose laws are not given and posited by it, but are at first still unknown, so that it has first to learn them in the world. The causes of these effects must therefore necessarily have an objective existence without thy and my ego. There are existing causes, and their existence is distinct from the existence of the ego. But now as concerns the quality of these existing causes, whose effects we feel in our sense-perceptions, no further inference is absolutely permitted us than that from the effect to an efficient cause, and since every sense-perception arises only under conditions (since, *e.g.*, a sapphire, only then when it is itself exposed to the rays from a source of light—be they direct or refracted—calls forth in our optic nerve the sensation of “blue,” since a string, only then when it is placed in vibration and is not contained in airless space, calls forth in our auditory nerve the sensation of a tone, etc.) so we infer an entity, which possesses the capacity of being in an active state under certain conditions; or a something that is able to act, capable of acting. But a something capable of acting we name a “power.” And thus from the effects called forth within us plainly only the inference to efficient powers is permitted us; every other inference would overshoot the limits of correct logical thinking, and deviate into the domain of fanciful hypotheses. If we, *e.g.*, see a black marble ball fall, hear it fall and then touch it, we must conclude from this threefold perception of sense, that an entity is there which is capable of exercising this threefold effect upon our nervous apparatus; but more we know not. We ascribe extension to it, because it calls forth in our sight and sense of touch the sensation of an image extended in space; we ascribe to it black colour and lustre, because it reflects a part of the rays of light falling upon it, and absorbs others, and thus evokes in our nervous apparatus the sensation of the

lustrous and of the black; we ascribe to it weight and hardness, because it excites, in the sensitive nerves of our muscles and in our nerves of touch, these sensations; we cannot, however, say (see above, Helmholtz!): It is black, lustrous, extended, heavy, hard; but only: It possesses the capacity to excite these sensations in us. And thus then we cannot even logically say: It is a body, a substance, a matter; but only: It is an existing complex of efficient powers.

Obs.—That “sensation first originates in the organs of sense,” Du Bois-Reymond (*Ueber die Grenzen des Naturerkennens*, p. 6) also emphasizes. For he means to say something specially wise, when he continues: “The Mosaic expression: Let there be light, is physiologically false; it first became light when first the red point of vision of an infusorium for the first time distinguished clearness and darkness.” If this savant had reflected a little, it would, nevertheless, have become clear to him, that in the passage Gen. i. 3—since there no individual organisms at all are as yet created—it claims not to be said: “Let there be subjective sensation of light,” but let there be that objective cause, which excites the sensation of light (consequently, if Newton’s theory be correct, the vibratory waves of ether would have begun at the point of time designated Gen. i. 3). But, of course, when the opportunity is given to add a jeer to the Holy Scripture, it does not amount to a *faux-pas* against logic.

§ 62. *There is no Matter.*

(B) Now with this physical subjectivism, in which the entire present philosophy of nature is at bottom agreed, the body of man, with its nervous apparatus and its organs of sense, is, however, presupposed as existing, and indeed as an existing matter. The latter is, however, a great inconsistency. The eye, which physiological anatomy investigates and dissects, is just as little that which it seems, as yon marble ball. How the eye exists, we know just as little as we know how any other so-called body exists; I know only, what sensations the eye, lying upon the dissecting table before me, excites in me who am investigating, consequently, what effects it calls forth in me. Even the eye, even the ear, the

hand, every organ, every smallest part of each organ, is a complex of powers, of which we perceive only the effects as sense-perceptions. Thus the entire body is a great complex of powers. The assertion, that the body is "material" and consists of "matter," is now a perfectly senseless one. Already, § 26, we have been convinced thereof, that the concept of matter is a non-concept; now this is still more evident. There, we let the definition, that matter is the bearer of qualities, still hold good, and, nevertheless, we saw even for logical reasons that the residuum, which remains over after deduction of all qualities, is pure nothing. Now, besides, the concept of qualities has completely dissolved in the concept of efficient powers. Matter, therefore, would be that which remains over in objects after deduction of the efficient powers. But now, of objects we know according to § 61 absolutely nothing at all further than just their effects, and can by no means, therefore, define the concept of objective existence otherwise than by the words: An existing complex of powers, or what is the same: A complex of existing powers. Of a further entity than just that of these powers, we know nothing. That behind these efficient causes, these powers, an abstract entity without effects and without qualities still adheres is both: logical nonsense and physical falsehood; just the powers are existing; the assumption of a matter were synonymous with the assertion that the complexes of powers were non-existing, and were affixed to an entity without qualities as to a milliner's stock! Now you may indeed imagine a quality as non-existing and unreal, namely, as the separate existence inhering nakedly and only as a quality in something else, but never as an efficient cause. If the effect is real and actual, there must likewise belong to the efficient cause, to the power, real existence. And if the powers and complexes of powers are really existing, they need not the existence of the shadowy matter that has no qualities as their "bearer." "Matter" is a substratum, which we, in a confused manner, are accustomed to add mentally, as the "bearer

of the efficient powers," to these efficient powers, without being thereby able to imagine anything whatever. If we take the simplest element of an "organic body," a cell, we have in it a complex of several powers acting upon different organs of sense, calling forth in them definite sensations (round, hollow, soft, half-fluid, and so forth); even so with the molecule of an inorganic substance. And now the organs of sense themselves consist just of such cells, such complexes of powers. Consequently, what we are accustomed to call matter, what we are accustomed to call "body," are nothing but methodical combinations of powers. The air itself, whose vibrations we hear as sound, the water, etc., are not "matter," but each of their smallest parts is a complex of powers operating according to law (§ 57, *Obs.* 2). In these senses we can say: Nature is a great living being.

Obs. 1.—Even E. v. Hartmann (*Phil. d. Unb. c. v.*) refutes, in acute but artificial dialectics, the position that a matter different from power exists. Ludw. Weis in his *Antimaterialism* (a very confused writing), instead of comprehending the correctness of Hartmann's thesis, and improving the proof for it, wishes to justify the dualism of power and matter (p. 67), but arrives at last against his will at the concession, that matter is nothing else than existing power. Chrn. Edw. Baumstark, in his *Christ. Apologetik*, likewise claims to establish the dualism of power and matter, and for this purpose refers, in something of a childish manner, to the "massiveness and impenetrability of bodies." Now, a block of oak is of course a mass impenetrable to my hand, *i.e.* it calls forth in my nerves of touch the impression of resistance. If my nerves of touch themselves were only "mass!" but they are indeed nothing but a complex of powers, and thus, ultimately, I have no resistance of mass against mass, but the resistance of two opposite powers. And now, when the oxygen of the atmospheric air combines at all chemically with the carbon contents of the wood (a process in which every kitchen-maid daily at the hearth is accustomed to be initiated), where then remains the "massiveness" of the block of oak? The carbon, with which oxygen united, evaporates as gaseous carbonic acid (which, on its part, is indeed no longer "impenetrable," but is capable of combining chemically with many widely different substances—bases). Slightly unburnt particles are carried off as smoke into the air, and of the entire "impe-

trable mass" nothing remains but a weak residuum of silicic acid and alkali in the form of ashes, which the next best soap-boiler is able to dissolve again and reduce to other combinations. But the "mass" has not dissolved itself, since such a thing did not exist; but the complexes of powers have been dissolved. The wood "looked wooden-brown," *i.e.*, in the combination of carbon with alkali, silica, water, and tannin, there was given a complex of powers, which contained among others the power to call forth in the eye the sensation of "wooden-brown" colour. But after that the carbon is separated from this combination, and the combination with oxygen has entered, there has arisen a complex of powers which contains in itself that power no longer, since it calls forth in the optic nerve no longer any sensation at all, but appears as transparent. Analogously has the power of greater specific gravity been lost. We will not, therefore, allow ourselves to be imposed on by the "massiveness" of the mass.

Obs. 2.—Every molecule of carbonic acid, *i.e.* every combination of an atom of carbon with two atoms of oxygen, is a complex of powers, in which the previous optical power of the carbon is lost. (It is usually said: The qualities of impenetrability and of black colour are lost; we know, however, from § 61, that this quality is nothing else than a "behaviour" toward the light, in which the sensations effectuated in our eye do not admit of being embraced, consequently a power.) Indeed, this being lost (occurring in conformity to law in numberless analogous cases) of single powers by the union or separation of different complexes of powers should suffice to convince us: that chemical combination is something else than a juxtaposition of heterogeneous atoms, as modern Atomatism from its materialistic presupposition, sufficiently devoid of mind, assumes. If 2000 non-transparent atoms of matter were distributed in regular stratification among 4000 transparent atoms, the result would be, well now, only a half-transparent or translucent, no non-transparent body.—That theory, however, is even refuted by another fact. A piece of iron, surrounded by a ball of sulphur, attracts the magnet. If the sulphuret of iron (a chemical combination of iron and sulphur) consisted of atoms of iron and sulphur placed together, it must likewise necessarily attract the magnet. But it does not attract it; the magnetic power, which the complex of powers named "iron" possessed, is lost. The chemical combination is therefore something absolutely different from a juxtaposition of material atoms. It is a combination of complexes of powers in which single powers constantly undergo a transmutation into other powers.

Obs. 3.—Du Bois-Reymond, in his exposition, *Ueber die*

Grenzen des Naturerkennens (Leipzig 1872), proceeds from the position (p. 2): "Natural knowledge is a reduction of the alterations in the corporeal world to movements of atoms, which are effectuated by their central powers that are independent of time. . . . The alterations in the corporeal world are reduced to a constant sum of potential and kinetic energy, which adheres to a constant quantity of matter." Consequently two distinct things are certain from the beginning in his dogmatism: firstly, that all qualitative distinctions and states are finally reduced to quantitative, all qualitative effects to motion of atoms (cf. on the contrary, § 59, *Obs.* 1); and, secondly, that there is a matter consisting of atoms to which powers "adhere;" that this "matter" is a "substratum without distinction, consequently without quality;" he himself, however, acknowledges, p. 5, and after a moderately confused exposition arrives, p. 8 f., at the confession, that that assumption of a "matter without distinction" as a bearer of powers—and therefore also the assumption that "all quality is to be explained from the arrangement and motion of such substrata," p. 5,—is "only a surrogate of an explanation," and indeed one which "leads into insoluble contradictions." He intends, p. 10, of course, just to refute the converse, the dynamic view (according to which only existing powers exist); he settles that briefly in six lines: "Conversely, if we imagine only the middle point of the central powers as a substratum like the dynamists" (but we dynamists imagine just no substratum at all!), "the substratum no longer fills space, for the point is the negation of space represented in space" (indeed?). "Then nothing more exists from which the central powers proceed, and what could be as inert as matter." Du Bois-Reymond, again, here directly treats that "surrogate of an explanation" as an irrefragable axiom. A "substratum," an inert something, without quality and without effect, "equal to matter," and consequently just a matter, must exist, this is once settled in his head. And thus his refutation of dynamism, viewed in the light, reduces itself to the syllogistic inference: "If there were no substratum, no matter, but only powers, there would be—no substratum, no matter." Why then is an efficient power as such not able to exist in space and in spatial extension? In a glass globe of 6 cm. in diameter—the same conceived as a complex of powers—the power, partly to reflect, partly to refract the rays of light according to a certain coefficient of refraction, exists as one present constantly in the extension of the globular formed space of 6 cm. diameter, and bound by no means to single "atoms." The optical effects of this glass globe proceed not from a "matter without quality" (which indeed can effect nothing at

all; for if it had the quality to call forth definite effects, it would not exactly be "without quality"), but the optical effects proceed from that power existing in the extension of globular space, *i.e.* the effect proceeds from the efficient cause, but never does the "power proceed from the substratum without quality, consequently without power.

§ 63. *Laws are the only Entities in Nature.*

Now only are we in the position to develop further and complete Fichte's doctrine of the self-certainty of the ego, the truth of which continues to stand. The ego is certain of itself, since it knows itself as existing. Of the non-ego, of objects, I know only (*a*) (according to § 60) that they exist as perceived by me,—or more correctly: as in me,—consequently that they are the contents of myself, that is, are in me, and (*b*) (cf. § 61) that I am not even that which has given them to myself as the contents of my perception, that they are rather existing powers in the sense, that a separate existence, independent of my existence and will, must certainly be ascribed to them, but (*c*) an existence of which we know, firstly, only the effects, and secondly, of which the ego possesses not that immediate certainty which it does of its own existence. Fichte, at least in his first period, stood still at the point (*a*). That was abstract idealism, and from this he answered the question, whence is the non-ego derived, simply with the abstract thesis: It is posited by the ego; the ego posits a non-ego, in order to be conscious of itself. This was not casually only a one-sided, but a positively incorrect answer, since, in truth, the ego already in itself is self-consciousness. (Without an object, the ego is conscious of itself in a manner not subject to time, and therefore not in a reflective manner, but it is conscious of itself, as was stringently proved § 58.) —We from our knowledge gained in § 61, that bodies are not material substances but "dynamides" (powers), *i.e.* complexes of powers, are now in the position (according to the precedence of Baader and Schelling, relatively also of Hegel) to refute

abstract idealism and to attain a real idealism. We do not deny that objects exist; we know certainly that they (*a*) are in us and for us, but (*b*) are not posited through us (by us, *a nobis*), that consequently a separate existence, independent of us, belongs to them; but we ask: What then is that existing in the objects? It is not "matter;" for a material substance does not at all exist; what in the abstract is called substance, matter, has proved itself § 26 and § 62 as a chimera. "Consequently"—we might say—"the complexes of powers are the entities existing in objects." But, as complexes, these have certainly no continuance, but are included in unceasing dissolution and re-combination and transmutation. Unceasingly, if also slowly, the oxygen, in chemically decomposing (oxidizing), works even in the most solid bodies; chemical combinations dissolve themselves, and the elements enter new combinations; in the new combinations a complex of other powers is manifested; carbon, which earlier had the power to excite the sensations of blackness and want of brightness¹ and of softness, has been so changed by the injection of an electric spark, that it possesses as diamond the power to excite sensations of transparency, brilliancy, hardness. The same carbon in combination with oxygen has fully lost all these powers; as carbonic acid, it is invisible (absorbs not the effect of light falling upon it, but conducts every effect of light or colour going forth to it) and elastically fluid (gaseous). So then what is it? It is not carbon; it is not another definite complex of powers; each complex is only a *φαινόμενον*, a *phænomenon*, *i.e.* a function, a transitory, perishable combination of efficient powers. Among those powers whose complex we call "iron," that also of magnetic attraction exists. Now, if this complex of powers, "iron," combine with the complex of powers, "sulphur," a complex of powers, "sulphuret of iron," arises, in which the

¹ When we say: It formerly absorbed altogether the effects of light falling upon it, and neither as reflected nor as refracted light permitted a part of it to reach the eye, we say only the very same.

power of magnetic attraction is no longer existing (see § 62, *Obs.* 2). Whether the same has been absolutely lost, whether it has been changed into another power (the discovery of the equivalent of heat, *i.e.* of the transformation of heat into motion and *vice versa*, is only the first step in an immense province of modern science, but still to be cultivated): in both cases the proof is furnished by that fact that the thesis: "No atom of matter is ever lost," is fundamentally false. In a molecule of sulphuret of iron, an atom of iron is no longer present along with two atoms of sulphur; for under iron we certainly understand a complex of different powers: $\alpha + \beta + \gamma + \dots$ among which the magnetic power μ is also to be found; consequently $\text{Fe} = (\alpha + \beta + \gamma + \dots + \mu) = \text{N} + \mu$; even so under "sulphur" we understand a complex of powers: $\theta + \chi + \psi \dots = \text{P}$; in sulphuret of iron, however, μ is no longer present; consequently in sulphuret of iron ($\text{N} + \mu$) is no longer present, consequently iron is no longer present in it. There is not, therefore, in sulphuret of iron: an atom of iron along with two atoms of sulphur in spatial juxtaposition, but there is therein a thing which was iron and now is no longer iron, but has become something else; the complexes of powers have not been added together mechanically, but been decomposed and changed dynamically. It is therefore not absolutely correct, that every atom, as far as it is material, continues to exist unaltered and incapable of being lost. Not even of the powers, whose complexes we are wont to designate as corporeal atoms, do we know with certainty, whether they continue to exist incapable of being lost and of being transformed; either a loss or a transformation must rather be assumed. Consequently we cannot ascribe to these powers unconditionally an existence. Only the laws, according to which those powers are interwoven and combined and individualized in "bodies," and are again separated and therewith transformed, and according to which they act upon other "bodies," *i.e.* complexes of powers (*e.g.* upon our organs of sense)—only these laws exist. We may with perfect

certainty (cf. § 57, *Obs.* 2)—we must ascribe to them existence. The entire visible and audible and tangible nature is according to this—not, perhaps, an illusive appearance—no, but a phenomenon of a kingdom of laws. A law, however, is nothing material, nothing corporeal, but something intellectual, because a something generally valid, embracing a plurality under a unity.

Obs.—When Wigand (*l.c.* Part II. p. 501, and also other passages) says: “The individual laws of nature, *e.g.* the law of gravitation, are only forms according to which matter acts, but no causes; the latter can only be concrete existences,” this dualism of formal laws of nature and concrete causes stands only in apparent opposition with the contents of our § 63. Wigand wishes to see understood under the “laws of nature,” viz., absolutely only the “laws of quantitative mechanism in nature discernible to the philosopher of nature,” and places them over against the qualitative causes and the determinateness of individualization as a second kind. On the contrary, I may designate these qualitative, determinate individualizations as “laws of becoming” (cf. § 65), and may therefore comprehend them as well as those laws of quantity under the concept of “law,” and consequently take the concept of law in a wider and more comprehensive sense. The right thereto Wigand will certainly with pleasure concede to me, which he concedes in another place (ii. p. 280), when he annuls the dualism of quantity and quality in a higher unity, and (p. 324) conceives “law” synonymous with “plan.”—That, finally, the word “matter” is with him only a briefer expression for concrete existence, see above, § 26, *Obs.*

(b) NATURE A COMPLEX OF LAWS.

§ 64. *The Categories of Natural Law.*

The visible world apparent to us, or nature, is therefore a kingdom of laws. Now we must become more intimately acquainted with these laws. We must ask, Whether the essence of one such law of nature is exhausted therewith when we say: It is the unity of a plurality, *i.e.*, it is that determinative something by which is determined that a certain process of nature elapses every time in the same manner, that,

for example, every time, as often as 4 vols. of nitrogen combine with 1 vol. of oxygen, a complex of powers arises, which produces those effects which we are accustomed to designate as that of "atmospheric air;" on the other hand, from the combination of two parts of oxygen with one part of nitrogen a complex of powers every time results, which we name "nitric acid" or "aqua fortis," and which, as is well known, evokes quite different effects; or: Whether even of these natural laws, besides that they are determinative for all cases and consequently exhibit a necessary causal nexus, this also has still further to be said, that they are arranged "rationally," *i.e.* with reference to an end, namely, so that through them a continuance of entire nature is made possible and an order of nature is effected.

§ 65. *Inorganic and Organic Nature.*

If we look at this question of the laws of nature more closely, the great distinction immediately strikes our eye which exists between inorganic and organic nature. That in the former physical and chemical laws prevail—the physical laws of attraction, of cohesion, of adhesion, of the centre of gravity, of resistance, the different laws of motion (of impact, of falling, etc.), further, the laws of optics, of acoustics, of heat, of electricity, of magnetism—and the chemical laws of combination and decomposition, and the stoichiometrical relations in both—this is undisputed. In the most recent times, however, the assertion has been made that even the phenomena of organic life admit of being fully explained from those laws of inorganic nature. But in spite of this bold assertion even the most decided representatives of the same are, nevertheless, not in the position to let drop or set aside the distinction between inorganic and organic nature itself; they speak continually of "inorganic" and "organic" combinations, substances, beings; nay, they are necessitated to concede that the one and the same physico-chemical laws produce within organic nature

different effects than within the inorganic. Above all, that within the former chemical combinations of a higher order are formed, which cannot be produced in the way of chemical experiment, consequently, not by employment of inorganic "substances" and powers, but are formed only in the living organism. The distinction, however, does not rise high enough therein; but now these higher chemical combinations are combined together in organs, in which successions of changes happen, which are not determined but only conditioned by the general physico-chemical influences of the external world. That, *e.g.*, water evaporates from the surface of the leaves of plants through the influence of heat, and that through the fine tubular system of the vessels water is sucked up on high from the soil, according to the law of capillarity, this now is a process conditioned by the existing warmth of the air and the humidity of the soil, which in all plants occurs essentially in the same manner; that, on the contrary, definite species of plants, *e.g.* peas, besides water also absorb into themselves from the soil through the root, even salts of lime and alkali, and employ these salts for the formation of their seed—that other plants absorb definite quantities of the salts of soda or of silica, and that every species of plants appropriates these particular mineral constituents entirely in their specific manner—that, *e.g.*, the *quercus pedunculata* constructs itself a vascular system which is so formed that the vessels harden to alburnum and wood, and that, in consequence of the entire process of life, short-stalked, oblong-inverted-egg-shaped, sinuous, bald leaves, deeply-indented at the base, are formed, whilst, on the other hand, the dense *urtica urens*, growing beside it, constructs itself a vascular system which does not harden to wood, and is so formed that repellent, oval, pointed, notched-dentate, hairy leaves arise—which is not explained from the general physical conditions the same in both plants, but only from a determinateness lying in the seed-germ of the individual genus and species of vegetable, which never has arrived at being visibly

demonstrated, and never will arrive (see *Obs.* 2); for it is not the determinateness of an existing thing, but that of a law of becoming. This is still more striking with animal organisms. A lion and a royal tiger are, from youth up, close beside one another in two cages in a zoological garden; they breathe the same air, the water which they drink is drawn from the same spring; the pieces of flesh, with which they are fed, are taken from the same fatted cattle, and yet another form and another covering of hair are produced by the lion than by the tiger, the same, however, by the tiger in the cage which is produced¹ by the tiger living free in the Bengalese jungle, breathing another atmosphere, exposed to another rate of temperature, partaking of different water and fodder. Here also the cause of the unlikeness of the formative and vital process between a lion and tiger cannot lie in the external conditions of life, but only in the life-germ, which the young lion and the young tiger bore in themselves from their parents, consequently in a determinateness of the semen and of the embryo. But now, it is a known fact, that the embryos of all mammalia exhibit in the first week to the eye of the observing naturalist moderately the same form, are similarly constructed, develop themselves in moderately the same manner from the ovulum. By an endogenous formation of cells in the ovulum—which ovulum, *e.g.*, in the case of man is $\frac{1}{125}$ of an inch in diameter—a globular heap of cells arises, which, while it extends itself, assumes the shape of a hollow ball or bladder consisting of a double layer of cells (the two “germ-leaves”). The interior “germ-leaf” again divides into two in a certain place; in this place arises a dark streak, on both sides of which pads arise as inspissation of the exterior and middle germ-leaf. The channel contained between them, since the borders of both pads over it grow together, becomes

¹ Of the influence of a difference of the external conditions of life, continued through many generations (which under circumstances may be able to produce alteration of breed), we have not here as yet to speak. Our above example of the three individuals proves what is intended.

a canal (the "medullary canal"), on whose nether wall the "vertebral cord" forms itself. From that part of the medullary canal belonging to the exterior germ-leaf the brain and spinal-marrow are formed, from that part belonging to the middle germ-leaf the cranium and spine. The pads quickly form into side-plates which, bending outwards, form an open cavity, the "primary cavity of the body." Later, the middle leaf of these plates splits into two layers, the exterior of which becomes the wall of the body, the interior of which becomes the wall of the intestines, and which now have between them the final cavity of the body. Therefore the embryonic development with all mammalia occurs in a manner essentially the same (although not absolutely without modifications in individual species, cf. Wundt, *Physiol.* § 147). And in spite of this development so far almost the same, at least very analogous, distinctions of class, genus, and species now henceforth gradually appear in the further development, so that the embryo begotten by the horse develops to a foal, that begotten by the bull to a calf, that begotten by the tiger to a tiger. Therefore it is evident that these embryos, though alike in form and structure to one another, have yet had a difference in themselves even already in the very commencement; for it would certainly be a nonsensical assumption, that from different causes (namely, the heterogeneous parental couple) like effects (namely, like embryos), and then from these like embryos, again, as from like causes, different effects (namely, the heterogeneous animals ever like their parents) should proceed. If in several series of causality the members at the beginning and end are different, so must the middle members also be necessarily different. And now since the difference of the middle members (of the embryo as they are in the first week of their existence) lies neither in their form, nor in their structure, nor in their chemical constitution (see *Obs.* 2), nor in their physical action, it must necessarily lie in the determinateness of a law of becoming. (For the special proof from natural history, see Book II. § 147-150.)

Obs. 1.—The older philosophy of nature made the mistake, that the vital functions are composed of physico-chemical processes, and reduced everything, the most concrete, in those functions immediately to an abstract “vital force” or (since B. v. Haller) to two abstract powers: “sensibility” and irritability” (cf. on the contrary, the passage cited by Wigand under § 66, note 1). It is evident from this that our doctrine of a “vital force” as a “law of becoming,” is totally different. What we name vital power does not exclude the physico-chemical occurrences in the organism, but is only that which initiates and directs them to a unified systematic co-operation. Just as one-sided and perverted as the abstraction of those older naturalists is the logical inference of the modern: Because it has hitherto succeeded in many cases in solving “complicated phenomena of organisms into elementary processes,” this solution is allowed to be assumed “as a postulate in every further investigation” (Wundt, *Lehrb. d. Physiol. des Menschen*, § 1). The inference, that what has succeeded in many cases must succeed in all, is not a logical one; nevertheless, for other reasons we are also convinced that all vital functions admit of being resolved into physical occurrences; the question, however, remains, What then is that which orders these occurrences to unity? Cf. below, § 148.

Obs. 2.—It might be objected: The cause why embryos of different species of mammalia, alike in the beginning, afterwards assume generically and specifically different forms, lies in the fluids (consequently, at least, in a chemical state, though not, perhaps, chemically demonstrable) conveyed by the mother to the embryo. But why then should this difference appear only in the fifth or sixth week? Was then that difference of the fluids not already in much higher degree present in the semen virile of the procreator and in the ovulum of the mother, as it is present now in the arterial blood of the latter and in her chyle (much dependent on the accidental quality of the nourishment)? If the arterial blood of the mother, as nutriment of the embryo, is to suffice to give to it the determinateness of the corresponding genus and species, so much the more, at least, must the semen and the blood at the act of generation have established such a generic and specific difference and determinateness of the development.

Obs. 3.—Darwin’s hypothesis of the so-called “pangenesis” (the germ-atoms of single organs), which will be illustrated in detail, § 152, serves indeed by its bare existence to confirm what has here been said by us. For a doctrine, which one is necessitated to invent in order to escape an absurdity so monstrous as “pangenesis,” must necessarily be true.

Obs. 4. — Against the doctrine of an essential distinction

between inorganic and organic nature, and of a vital law of becoming—and for the hypothesis, that the whole vital process of the organism admits of being explained as a product of the general physico-chemical laws, the fact has been continually referred to with much emphasis, that it has succeeded in restoring artificially, by the method of chemical experiment, acetic acid, urea, formic acid, alcohol, lactic acid, benzoic acid, and oxalic acid, these “organic substances”—only partially, of course, “from materials of organic nature” (!). This triumph, however, is in a double relation a premature one. In the first place, urea, acetic acid, etc., are by no means “organic substances.” If you claim to include among “organic substances” all that which is evacuated from a living body, you may succeed in chemically restoring in this sense particular “organic substances” by means of an alembic and retort; only from this, it does not at all absolutely follow that the vital process admits of being explained from general physico-chemical laws. For, in this process the evacuated substances (as urea), it is well known, are in an inactive state, but those constituents, which are capable of germination and growth, are active. Let one restore by a chemical method a single cell capable of germination! Hitherto, as is well known, this has not been attained. For this reason it has been declared that the means, which one is necessitated to employ in order to keep off the little microscopic spores and germ-cells whizzing about invisibly in the air, themselves react in an obstructive and destructive manner upon the cells produced in an artificially chemical way, and that solely by this accessory circumstance, the chemical production of a cell, capable of life, becomes impossible. But it is by no means to be overlooked, why there is not chosen for this production a larger species, *e.g.* a cryptogam (perhaps a mushroom) whose seed-spores are not so small that they would whizz unperceivably in the air, and indeed a species whose spores will only ripen and be disseminated in a particular time of year. You know the chemical constituents of these spores; do you select a point of time when they have been disseminated the longest, and a place where you can be certain not to meet them in the air, and under these conditions make the experiment!—and if it succeed, then only a second point remains, which would make the triumph fully void. Secondly, namely, you have forgotten to prove what effects and what substances in the living body are to represent the activity of the experimenting (and therewith the thinking) chemist and the reagents and apparatus employed by him. From this, that a man knowing the laws of chemistry produces in a chemical way, by means of apparatus very skilfully contrived and of

manifold reagents, that acetic acid or that urea or (*si diis placet*) actually even a cell capable of life, there nevertheless does not follow so immediately, that the same products could be produced in a chemical way from corporeal organs, in which neither such apparatus nor such reagents are present, to say nothing of an understanding and will of a chemist initiating and directing the process. From the premisses, that the understanding and will of a chemist may produce in a chemical manner an organic product, we would, conversely, rather have to draw directly the conclusion: that though corporeal organs be able to produce such a product, there must necessarily be present in them an efficient cause, which—supplying the place of the understanding and will of the chemist—initiates the chemical process, and consequently at least a law of becoming operating unconscious of itself. Nevertheless, no inorganic chemical process occurs, not even the simplest! without its *causa sufficiens*. When iron rusts in the air, the humidity present in the air is the cause of the origination of the rust (oxy-hydrate of iron). Gold cannot be dissolved unless the so-called royal water (*aqua regia* or hydrochloric acid mixed with nitric acid) is brought into combination with it. Infinitely more complicated are the procedures which are merely necessary to the analysis of the so-called “organic combinations,” to say nothing of the restoration of a single one of the same (urea, acetic acid). And, moreover, if it were now possible chemically to restore not merely such so-called “organic combinations,” *i.e.* decomposed products of dead organs, but organs actually capable of life and living (*e.g.* germinating cells), the conclusion would ever have to be inevitably drawn: That when the living organism undertakes the same labour, since it constructs and constantly reproduces its organs, there must be present in it an agent that initiates and directs these processes (not occurring in inorganic nature), procures for it the necessary elements and conditions in the correct order (*cf.* below, § 76, *Obs.* 2). And herein the cause, why with the lion the organs form themselves so—with the bull so—with the *quercus pedunculata* so—with the *urtica urens* so, can only be sought in that agent. Consequently, let us shift and turn ourselves as we will, we are ever imperatively urged anew to the assumption of an organic law of becoming.

§ 66. *The Vital Power.*

We are therefore convinced that in every organic being there is present a law of becoming, through which the physico-chemical processes of the particles composing its body receive

a peculiar determinateness of the not yet determined course through the general physico-chemical laws, as well as through the general conditions of life. Now since these particles (according to § 61) are not material atoms, but complexes of powers, so also the law altering and changing these complexes of powers in a generic and specific manner, must, because it is one directly operating (no abstract theory), be designated as a power. Now in every single organic individual there is one such single power determining the whole series of phenomena of the specific process of becoming. The corporeal particles, upon which this one power acts, are innumerable many. These particles, however, are not complexes of powers of that common kind which we find in inorganic bodies, *e.g.* acids, metals, but complexes of powers of an entirely peculiar sort, *viz.* cells. Every cell, even the microscopically least, may be mathematically dissected into still smaller parts; again, it consists of molecules and atoms, *i.e.* of infinitely many punctual, inorganic complexes of powers (chemical constituents); but it even has already in itself that capacity which we just now found in all organic bodies: the capacity to alter itself in a specifically definite (not determined by the general physico-chemical laws, but by its own law of becoming) manner, as well in form (by dissection, distension, irritation, hardening, liquefaction) as in chemical contents (by assimilation and by secretion or exudation). The law of becoming, which as an indivisible one lies at the foundation of the structure of the whole organic individual, thus operates in every single cell, but again differently in each, namely, in conformity with the unified whole, which is to be realized from the multiplicity of the cells, and is to be maintained in this multiplicity. This administration of an indivisible law of becoming, operating as a power, we name life (physical life), and so far as this law operates as a power, we speak of a vital power.¹ The

¹ Against a vital power in this sense even Wigand (ii. 250 f.) has nothing to object, he rather postulates it. "We reject the concept of vital force only in as far as with its use the claim is bound up to have the phenomena

misapprehension of this vital power and the erroneous theory built thereon, is designated as “mechanism,” the “mechanical theory;” we will have to speak of it more in detail in Book II., and to present it in its untenableness and its inner contradictions.

Obs. 1.—In the most glaring manner that vital power appears in the form of the reproductive power (healing power). When an earth-worm is cut into three pieces, there arises with the middle piece in every section of the surface a white exudation, which soon separates into rings, contains elongations of the digestive canal, of the vascular system of the blood, and, finally, where in the one end a head forms itself, in the other a tail,—organs which, in the trunk portion, find indeed no analogue! There is active a law of becoming as a power. Particulars, see § 150.

Obs. 2.—We have here a series of great, honoured naturalists on our side. The renowned French physiologist, Claud Bernard (fellow of the Academy), defines life as *une force speciale, directrice, commandante, à tous les mouvements, à toutes les fonctions, à tous les actes de l'être organisé*, and combats those who wish to reduce life to physico-chemical occurrences. Just so Sir William Gull (address in the College of Physicians in London on 24th June 1870) and Lionel Beal (in the *Medical Times*, summer 1869), who vindicates for vital power its title, and Alfred Meadows (opening of the winter lectures in St. Mary's Hospital, 1871), who overthrows the distinction between vital force and physical force. Just so Liebig (see below, § 75, *Obs.*).—If, on the other hand, Du Bois-Reymond (*l.c.* p. 14) defines the distinction of the organic from the inorganic so far, that in the latter matter is in stable equilibrium, and hence remains as it is, without influence of external powers,—but through organic being, a stream of matter pours forth, and this latter is thereby “in more or less perfect dynamic equilibrium,” and hence “transforms potential into kinetic energy”—before this phrase our understanding stands still. Without regard to the non-concept of “matter” already mentioned, and the indistinct concept of “equilibrium,” we have to ask: What then is “organic being,”

of life thereby explained” (cf. § 65, *Obs. 1*); “without this claim, we hold the concept of vital force as justified, so far as it has not succeeded in deducing the phenomena of life immediately from the well-known laws of unorganized matter as a necessary effect.” And that this has not succeeded and never can succeed Wigand proves just there. “To explain the manifestations of life from the general qualities of matter will never succeed, because it is generally impossible to understand one quality of matter from the rest” (cf. in particular also Wigand, vol. ii. p. 250, vol. iii. p. 178).

if a stream of matter is to pour forth "through" the same? Well, is there, therefore, even no matter? Or if so, there are, consequently, yet existent two kinds of matter, one inert and one flowing. But what, then, is that causing the current? Du Bois-Reymond compares organic being to a "manufactory into which coal and raw material stream." These, however, do not stream in (advantageous as even that might be for many "founders"), but must be procured and conveyed in, and thereto belongs a subject, as *causa sufficiens* (cf. Wigand, ii. 441). Now, where then is the subject, which with the organism causes and directs the instreaming of matter? Well, has a *causa sufficiens*, nevertheless, to exist?!! The physiological proof of this *causa sufficiens* we will furnish below, § 147, from the non-coagulation of the blood in the living body, from the variety of decompositions which one and the same mass of blood undergoes in different organs, from the development of the embryo, and from the capacity of regeneration.

§ 67. *The higher Monads, and Monads of lower and middle Order.*

In so far as every organic individual has an indivisible law of becoming, as a vital power, for the cause of its process of becoming and of life determined generically and specifically, and yet individually besides, we designate this efficient law of becoming as a monad,¹ and indeed as a monad of higher order. And in as far as in every single cell of an organic individual that law of becoming is active as a power, which regulates and effectuates the particular development of the cell in behalf of the entire body, we recognise in the cell a monad of lower order as operating.² We therefore distinguish the concept of the monad from that of the atom as the smallest conceivable part of an inorganic complex of powers (with which, however, it is not intended to be said, that

¹ It is evident that this our concept of monad does not, in short, coincide absolutely with that of Leibnitz.

² Wigand, vol. ii. p. 204: "There exist just as many centres of force, of life, and of form, as individual members, purely free beings in free confederacy, and nevertheless always bound one with another in a firmly jointed whole, in virtue of that genial synthesis which, as that of the specific type, mocks every analysis."

inorganic bodies are actually compounded objectively of atoms; we find rather in objective actuality only extended complexes of powers constantly filling definite spaces; mathematical points in reality do not exist as things; even an atom could not be thought as a mathematical point, but ever only as a mathematical body of very small extension indeed, but nevertheless just of extension, consequently as one constantly filling a certain, though a small space).¹ Hence, that the law of becoming of the monad of higher order is active in every single cell as a monad of lower order, it is explained that organisms fall apart into a plurality, nay, through such fission may propagate themselves. Thus a single branch of a plant, nay, a single bud, with the begonia even a single leaf, as a so-called "scion," will become a new, separate, individual plant. Thus in the animal kingdom the Protamœbea (the most imperfect animalculæ of the Infusoria) multiply by "*monogonia*," i.e. through the subdivision of an individual into several; so planarians and ringworms propagate themselves by "gemmation" (the separation of a cell from the mother animal, which then is formed by dissection into a worm). It is, however, also immediately evident that this disintegrating of an individual into several only takes place, and can only take place there, where the collective organism is not, or only in the smallest degree, differentiated, i.e. where in all parts of the same the same organs ever again repeat themselves with the same functions, where, consequently, the monad of higher order repeats itself in the monad of lower order (such as, e.g., in the tree, the law of becoming of the trunk, which indeed was itself formerly a branch, repeats itself in every branch). Among animals, from beneath up, the Tunicata are the first, in which there is a trace of a spinal cord, and with them, then, propagation by gemmation no longer even occurs, just as little as with the zoophytes, where rather in the interior of the mother animal the young originate like a heap of cells, which forms itself into an individual, and

¹ Cf. above, § 62, *Obs.* 2.

then only separates from the mother (the so-called *polysporogonia*). That, moreover, with the properly articulated animals, which possess head, trunk, and extremities (the Arthropoda and the vertebra), there is no question of a disintegrating of an individual into several; this is well known. Here the monad of higher order does not operate in a multitude of homogeneous monads of lower order, but in a multitude of heterogeneous monads of lower order. The indivisible law of becoming determines the organism to organize itself into disparate parts, none of which is permitted to fail, and none of which is able to subsist alone for itself, rather the life of the whole is conditioned¹ by their mutual co-operation. Among these heterogeneous monads of lower order, those of the ganglionic knots or nerve-centres (which mediate between the sensible and motor nerves and regulate the function of the other organs) are superordinated to the remaining monads of lower order, subordinated to the monad of higher order; they may therefore be designated as monads of middle order. In the vertebrate animals we find that differentiation formed in the most perfect degree: the nervous system (with the brain and spinal-marrow, and with the ganglionic knots), the system of the blood circulation (with heart, arteries, veins, spleen, kidneys), the system of digestion for the preparation of blood (with the medullary canal, stomach, liver, gall-bladder, intestinal canal), the lungs with the small blood circulation for the oxidization and renewal of the blood, the system of generation, finally, the organs of sense and motion, and all these systems in mutual co-operation with reference to an end.—Finally, with man, the indivisible vital monad of the individual, which causes and directs the vital process of the life of the body, cannot possibly be substantially different from the ego cognizant of self. Already, § 59, we have convinced ourselves that, as long as the body is a living one, in all conditions (even in sleep, fainting, insanity) the self-consciousness of the ego as constantly continuing is always posited; only with the

¹ Cf. moreover, Wigand, *l.c.* vol. ii. p. 195 ff. and p. 458 ff.

dead body, the corpse, has the self-conscious ego vanished also with the life. This indeed shows us that the vital monad and ego cannot at least be separated. And now, since the intellectual contents (inclusive of character) willingly acquired by the ego, *i.e.* the personality (§ 55), gives to the body in its structure and formation and transformation its physiognomic and physiological stamp (since not only single mental excitations, in accelerating and retarding, operate upon the circulation of the blood, and, moreover, are even reflected in the expression of the face, but also the entire character expresses itself in the physiognomy), and further, since the conscious will of the ego acts upon the *nervi motores*: so the trichotomous assumption, as if the vital monad effectuating the vital process exists as a second centre along with the ego as a first centre (in other words, as if, along with the ego, there still existed a "soul" different therefrom), is hereby unconditionally excluded. The ego itself is the vital monad which effectuates and regulates the vital process. That the ego is not herewith conscious of this effect of its own vital monad upon the vital functions, causes no difficulty at all. The ego is conscious, in an unconditional manner, only of its own self, its body is an object, a part of the world, its consciousness of its body forms a part of its consciousness of the external world, and that this consciousness of the ego from the world, moreover, is the reflective consciousness, one conditioned and limited in a manifold manner, we have already (§ 57 ff.) seen. Thus, then, even the effect of the vital process results through the ego, but in a manner unconscious to it. And thus, then, we have to distinguish in the activity of the ego the conscious functions of perception, thought, concept-forming, and volition, which constitute the intellectual or (inasmuch as perception and will stand in relation to the sensitive and motor nerves) the intellectual-psychical life—and the unconscious vital functions which constitute the psychico-bodily life. Never, however, do we feel authorized to consider the "soul" as one subject and the "intellect" as a second subject subsisting

independently beside it. For, since perception by means of the nerves of sense and the excitation of the motor nerves by the will take place also with animals, we would be necessitated to consider both as functions of the soul, not of the intellectual subject, and this would lead to the absurd assumption: the perceiving ego of man is another ego than the thinking ego, the consciously volitional, another than the ego moving the members of the body (cf. below, § 112 b).

Obs. 1.—In behalf of the mechanical doctrine and against the existence of a monadical vital power, the following effects have been referred to: (1) Both halves of an earwig (*forficula*) that has been cut in two, the head-half and the tail-half, turn against each other and fight each other, that with the forceps of the mouth, this with the sting. Here consequently even an insect divides into two parts still relatively capable of life, but, mark well, (α) not into two individuals (each of which, reproducing the part that is wanting, would complete itself), but only just into two fragments, which (β) still continue only for a short time to vegetate. It is not even allowed (γ) to cut in twain that beetle, parallel to its length, however desirable, but, if the experiment is to succeed, we must separate it into the two parts of which, moreover, it already consists, in which it is already articulated. There follows, therefore, from the experiment absolutely only this, that with the *forficula* the vital monad and vital power have been distributed, from the very beginning, in a tolerably uniform (non-differential) manner in both these organic parts of its organism. (2) If a male praying-cricket, after that you have cut its head off, still copulates with its female, from this again there only follows, that with this species of animals the head is no central organ for the vital monad or the so-called "psychical life," but the vital monad is immanently uniform in the ganglia of the abdomen as in the ganglia of the head. A monad of middle order then officiates a long time for the monad of higher order, whilst with entirely non-differentiated organisms the lower monad becomes the higher (as in the *monogonia* and *gemma*tio). Even with higher animals, indeed with man, a part of the brain may be mechanically destroyed without immediately causing death; only the reflective consciousness of the external world is arrested, but spontaneous movements still follow, though unconscious (analogously, as when a person who is delirious with fever strikes angrily at some one, which he also does "without consciousness," i.e. without consciousness of the external

world, and yet spontaneously). Concerning this point we have yet to speak in detail, Book II. sec. 5. For the present, it suffices us to establish, that, if the vital monad, or so-called "soul," acts uniformly upon all or upon several organs of the body, it cannot rationally be inferred from this that it does not act or there is no such vital monad. (3) Directly here I add also for another purpose the case cited by E. v. Hartmann (c. v. p. 99): A dog out of which the cerebrum had been taken, warded off with his paw the hand which seized it roughly by the ears. Hartmann, with justice certainly, explains this as a reflex movement, whereby the *medulla oblongata* as a centre performs the function between the sensitive and motor nerves. Here also there is consequently a monad of middle order, which officiates vicariously (a short space of time). This, however, is no longer life, as little as the convulsions and movements of a recent corpse, through whose nerves you transmit an electric current, are life.

Obs. 2.—Now here also is the correct place to approach the question concerning the so-called seat of the soul or central organ. It results, indeed, from what has been developed in the paragraph, that only in differentiated organisms can there be the question of a central organ, but that the more perfectly differentiated an organ is, even the more certainly must there be present in it a central organ. Just for this reason, while we leave the question concerning the central organ in the different orders and classes of the animal kingdom to zoology, we will here confine ourselves to the question, How in the human, as the most perfectly differentiated organism, does the central organ stand related to the vital monad or "soul." Where the central organ is to be sought, thereon no doubt prevails. With the brain the reflective consciousness of the external world is bound up (§ 53 and § 59), toward the brain those nervous excitations, which evoke sensations, are transmitted; from the brain, the *nervi motores* are transposed into excitation at the command of the (reflectively conscious or unreflected) will. But even the most important involuntary functions of the corporeal organs, although they are directed by single ganglionic knots and nerves, therefore immediately by monads of middle order, nevertheless receive likewise their last impulse hither from the brain. (Thus, *e.g.*, respirations are excited by the pneumogastric nerve, but the centre of this nerve, the so-called *noeud vital* lies in the *medulla oblongata*.) Some, therefore, have thought that they must search in the direction of an altogether definite, single point or spot in the brain, which is the "seat of the soul." (Descartes, as is well known, believed to have found in the pineal gland "this seat of the soul.") Every such like repre-

sentation, however, is preposterous, for physiological as for philosophical reasons. There is in the brain no organ to which all vital functions, psychical and intellectual, converge, or from which all start together. The functions of the reflective consciousness are in the large brain, those of sense-perceptions in individual peripheral parts of the large brain (*e.g.* the perceptions of the sense of sight in the bump of sight, *thalami optici*), the involuntary vital functions are bound up with the little brain and the *medulla oblongata*; so much has resulted with certainty from observation of the injuries andickenings of single parts of the brain. There is no single place in the brain through whose annihilation these different functions would altogether be annulled. The brain consists of two symmetrical halves. There are (Hartm. c. ii. p. 339) established cases, where the one half has through disease become incapable of officiating and the other has vicariously discharged the entire functions. Therefore, the possibility of a unified (central) point, which might be the seat of the soul, is unconditionally excluded. With this physiological reason a philosophical one immediately goes hand in hand. If the monad had a spatial, extended existence, it would be a "corporeal thing," *i.e.* a complex of powers, consequently not a monad, but mathematically and dynamically divisible. We must therefore reject as false the representation, as if the vital monad or "soul," *i.e.* the ego, as animating the body, dwells in any one molecule or any one minor organ of the brain as in a closet, and from thence directs the organism. The monad, as incorporeal and non-spatial, is present rather in the system of its organs, only just in a differentiated manner. We can easily convince ourselves of this. It is a known fact, that the sensitive nerves of the different organs of sense have all the same structure and constitution (Wundt, *Lehrb. d. Physiol.* § 156 ff., especially § 162). In the retina of the eye there is present an exceedingly fine apparatus, in order to receive the millions of single optical excitations, which reach the eye simultaneously from separate parts of the field of vision; in the optic nerve, on the contrary, there is no trace of an apparatus which could convey this immense multitude of different perceptions of light and colour to a soul "sitting" behind, in the brain, or to a central organ in this sense. Indeed (according to Wintrich's discoveries) the nerves possess the capacity of conducting longitudinal vibrations; the possibility, however, is not therewith given, that millions of different optical excitations, as they simultaneously take place alongside of one another in the retina, should be conducted further by the simple *nervus opticus*. The perceiving (consequently

conscious and identical with the subject—in man with the self-conscious ego) monad,¹ in the act of seeing by the large brain (as the organ of our cognition of the external world) through mediation of the *thalami optici* and both optic nerves, is present in active receptivity in the retina itself (and indeed in the retina of both eyes). The optic nerves and *thalami optici* are not apparatus of conduction for the objective, optical excitation (according to Newton: vibrations, oscillations), but are organs of the subjective optical sensation. (And therefore it is evident that in both cases, as well when eye and retina, as when optic nerve and bump of sight are injured, or diseased, or maimed, seeing is obstructed, consequently blindness supervenes.)—This view, which I had developed in my essay: “The Philosophy of the Unconscious” (*Deutsche Blätter*, 1872), I have recently to my delight met with in Jean Paul’s *Hesperus*. In the 9 Schalltag (“Essay on the Relation of the Ego to the Organs”) he writes: “Hence an object is seen, not with the continuation of the optic nerve, but with fine delicate staminal filaments (in the retina); for the great wavering picture-gallery upon the retina cannot possibly by means of a motion of the nervous fluid—or whatever you like to call it, for to motion, nevertheless, does it come—push itself back into the brain, where, moreover, the two galleries of the two eyes by means of the two branches of the optic nerve would have to move and converge to one picture in its stem. Of course, the representation in the eye, ear, etc., if it is to be of any use, must be felt at the tip of the nerve. It is foolish to imprison the soul within the narrow limits of the ventricle of the brain. It inhabits, foment, and fosters, as a hamadryad, every little branch of a nerve.” But it does that in a differentiated manner. Its organ for thought is the large brain; for the sensations of light and colour, the optic nerve; for the sensations of sound, the auditory nerve. Therefore Jean Paul is wrong, or only half right, when he continues: “The nerve that has been tied underneath and cut through no longer indeed conveys sensation, but not on account of an interrupted connection with the soul and its dwelling-place in the ventricle of the brain, but because it is cut off from the nutritive principle of life; for the nerves need, as all finer organizations, continuous supply of nourishment.” Rather is it simply to be said: If such and such a definite subjective sensation is bound to such and such a definite differentiated organ, it becomes impossible through the destruction of this organ. And, therefore,

¹ The perverseness of the trichotomous theorem (cf. § 67) first shows itself here quite evident. Will any one assume, the “soul” perceives the sensations of light and makes a report thereof to the ego? !

Du Bois-Reymond is not half, but entirely wrong, when he (*Ueber die Grenzen des Naturerkennens*, p. 6) supposes: "With the optic and auditory nerves distributed over the loins we might hear with the eye and see with the ear" (!!).

§ 68. *The Vegetable Kingdom and Animal Kingdom.*

In inorganic bodies changes consequently take place, every single one of which is caused and effectuated by a single external (physical or chemical) influence upon the body. With organic bodies, on the other hand, series of changes take place, the totality of which indeed is only brought about under the condition of certain external states and occurrences of general physico-chemical nature (air, heat, nutriment, etc.), whose succession, however, is not conditioned or effectuated by a corresponding succession of external (physico-chemical) causes, but is determined and effectuated by the monadical vital power of the specific law of becoming, and—those general conditions being presupposed as given—elapses homogeneously with each species under all circumstances. (Thus the human embryo forms itself into man with all the specific peculiarities of man, whether the mother eats Esquimaux food or Vienna chops, whether she goes in velvet and silk or in the somewhat simple costume of the New Zealander, whether she lives in a hot climate or in a cold. If only the general conditions, that she remain alive at all and in health, are given, the succession of changes occurs in her womb, whose result is the birth of a human being, without a series of external causes corresponding to this series being in any way active therewith.¹ With inorganic bodies, on the other hand, there is no question of such series of changes; here only single changes occur, each of which is effected through a corresponding external cause. Here is granular iron-ore; it remains iron-ore until I put it into a furnace; now it is transformed into oxide of iron (cast-iron). This, again, remains what it is until I melt it over again, and conduct it into moulds. Now

¹ Cf. moreover, below, § 148, *Obs.*

it assumes the shape of the mould, perhaps that of a hearth-plate. This remains what it is until, either through long use it is burnt through and becomes unserviceable, or until (perhaps, as yet before its employment) an awkward blow happens to it, which breaks it into pieces. These pieces remain what they are until I make them red-hot in active contact with the air, transform them under the hammer into wrought iron, and so forth.) But now we again find among organic bodies themselves a polaristic difference, namely, that between vegetable and animal. If we consider both at first only according to the procession of corporeal phenomena and functions, the whole of the vital processes in the vegetable exhibit themselves as a continual process of deoxidation or reduction—but in the animal as a continual process of oxidation, and we have reasonably to address to the savants, who deny the existence of monadical vital power and fancy to be able to explain organic life as a mechanical course of physico-chemical occurrences, the modest question: How is it, at least, explicable and conceivable that the one and the same physico-chemical laws call forth in the vegetable organism the opposite series of phenomena, as in the animal organism, if these laws are to be the sole efficient causes in both? How then can opposite effects proceed from one cause?—A second distinction between vegetable and animal is just as striking, namely this, that the vegetable is bound to the soil (and in so far as it consists of earth and not of water, has even grown out of it) from which it draws a part of its nourishment, and has (at least, almost no free) no voluntary motion, whilst the animal even seeks for its own food, and has (almost free, but unconditionally free) voluntary motion.—Thirdly, finally, the animal has organs of sense, which are wanting to the vegetable.

Obs.—These distinctions are, as is well known, not very strictly drawn. That there are swimming plants (as sea-weed), which have free motion, and, inversely, animals, like the coral and polypus, which are growing firmly, and have no free motion,

causes no difficulty; for not the freedom but the voluntariness of the motion makes the decisive difference. The free seaweed is driven by the currents of water and wind; the polypus adhering thereto voluntarily moves its fang-arms. With plants, however, do not also voluntary movements occur? No one will claim to hold those of the *mimosa pudica* and *dionæa muscipula* as voluntary; they arise only upon external contact; with them the question only can be, whether they are to be explained as reflex-movements or not rather from an arrangement of the aqueous parts, which are changed by external contact. On the other hand, it is perfectly correct that the nethermost, most imperfect, at least the articulated and differentiated species of the animal and vegetable kingdoms approach so close to each other, that the boundary between both series in this nethermost region can scarcely be drawn with certainty. Here, moreover, much also that is untenable has been asserted, thus, *e.g.*, when one ascribes voluntary motion to certain algæ (the *diatomeous*, *glostomum*, *navicula*). It was on the 18th March 1862, when my late friend, Prof. Dr. Schnizlein, allowed me to participate in a microscopical investigation on this point. A pair of such algæ at first stood still in the water, the one at a distance from the other; suddenly with a shock they came together, and lay, well, for the length of a single second, close beside one another, like two boats which have collided with each other, then just as suddenly withdraw again from one another. This made on us both entirely the impression of electric shocks, and reminded us vividly of those paper-cuttings which alight on rubbed sealing-wax, and, after the electric adjustment has resulted, again rebound therefrom. This impression was further increased as there suddenly came into the field of vision an infusoria, which with the most lively motion of its arms squeezed itself through between the algæ and the particles of the slime-growth in alternating curves. There we saw what voluntary motion is. Of the three distinctions named above in the paragraph, that of the presence or want of voluntary motion always forms the best determination of the boundary. Deoxidation does not extend throughout the whole vegetable kingdom; for the entire class of myceloids (fungi), under which there are so highly developed species, does not exhale but inhale oxygen. Again, the existence of organs of sense does not extend throughout the animal kingdom; for the developed organs of sense are wanting in the lowest animals, and are replaced in them by a nerve-substance distributed uniformly over the entire body. This seems to be entirely wanting in the vegetable (so far the movements of the *mimosa* may be mechanically explained). Thus the presence or the want of voluntary motion still remains the best boundary.

But even it does not fully suffice. Indeed, when Häckel throws together in one class the mixed myceloids with the flagellata, noctiluca, and other infusoria, which he names "protista," of which he asserts they are neither plants nor animals, but both at the same time, this is—original! But indeed there are, in fact, beings of which it is doubtful whether we are to assign them, as *alcyonium*, to vegetables, or, as *lobularia*, to polyps. Single kinds of peziza also fluctuate between fungus and sponge-life; moreover, the *protococcus nivalis* and the *hæmatococcus pluvialis* originate as plants and then transform themselves into infusoria. In itself, indeed, it is not even absolutely inconceivable that such species may exist; just because with the lowest classes of organisms the whole is as inarticulated, and the parts are as homogeneous, as both the systems of organic life can be: that which forms the higher chemical combinations and that which consumes the same (that which reduces and that which oxidizes) still being united in one individual. Besides, there exists between the simplest vegetable and animal cell the constant threefold distinction, (a) that in that the cellulose membrane, as differentiated from the plasma, forms a distinct organ, whilst in this the membrane remains homogeneous with the plasma; (b) that in that the plasma decreases with the growth of the cell and in the interior of the cell makes room for new combinations (the cell-sap), whilst with the growth of the animal cell the plasma increases and deposits on the outside of the cell the inter-cellular substance, important for further morphological formation; (c) that with the vegetable cell the kernel of the cell vanishes, whilst it continues in the animal cell as long as the cell itself. It is evident that this threefold distinction admits of being reduced to the simple formula, that with the vegetable cell growth and differentiation take place from without toward the centre, with the animal from the centre (and indeed from the kernel) toward the outside. To this, then, amounts the opposite chemical behaviour; that the vegetable cell forms the more composite from simpler combinations, the animal secretes simpler combinations from the most composite, that consequently that transposes "actual powers" into "elasticity," this elasticity into actual powers (the formation of chlorophyll there and of hæmoglobin here are connected, as is well known, in the closest manner with this polaristic, antithetical, collective function).

§ 69. *The Psychological Functions of the Animal.*

But now we yet find in animals more than mere corporeal phenomena; indeed the arbitrariness of their movements,

just as the presence of sensations, lead out beyond the limit of corporeity. We therefore find in animals a series of functions, which have a certain relationship with the higher functions peculiar to man, and are accustomed to be designated as psychical functions. The animal is without doubt a subject, namely, a percipient and volitional subject, what the plant is not. The plant sees not, hears not, has even no sense of touch; it has, in general, neither organs of sense nor nerves; neither sensitive nor motor nerves have been discovered in any one plant. (Concerning the *mimosa pudica* and *dionæa muscipula*, cf. § 68, *Obs.*) The animal, on the contrary, has organs of sensibility and motion, and although with the nethermost of all animal orders, that of zoophytes (fungi, corals, medusa, and that of vermes), the nerve-substance is not yet differentiated to a system of distinct organs, but is still diffused through the entire body as so-called "Mulder's fibroin," it is, nevertheless, just present, and makes itself known through its sensitive and motor effects; and already with the higher zoophytes (the tunicata) there is actually found a spinal cord, as a differentiated central organ of the nerve-substance. From thence upwards (with the mollusca, radiata, arthropoda, and vermetus) the nerve-apparatus is more and more developed, and ultimately even till a delicate degree. The animal, consequently, perceives the external world by means of its nerve-apparatus, and is able to move itself (even the zoophyte perceives the objects serving it for food, when they approach to it, and it seizes the same and conducts them into its intestinal apparatus). Therewith the lower boundary of the animal kingdom, that towards the vegetable kingdom, would, as well as possible, be firmly established (cf. § 68, *Obs.*). In fact, the upper boundary of the animal kingdom, that toward man, is more difficult to be defined. Materialists, having striven in general to efface this boundary and to degrade man to a more developed ape, have sought to raise and screw up as much as possible the intellectual capacities of the animal; Darwin and Hæckel speak

directly of the "intellect" and the "intellectual capacities" of animals, whereby these gentlemen only prove that they do not even yet know what intellect is, and in spite of all their extensive empirical knowledge, are in a lamentable ignorance of the most common of all philosophical concepts. Others, on the contrary, from opposition towards materialism, have even denied to animals such psychical powers, which, nevertheless, belong indisputably to them. The exact point of dispute is: Whether the animal is only "quantitatively," *i.e.* in degree (as Dr. Fr. Strauss asserts, *Old and New Faith*, § 64, p. 206), different from man, or whether it is "qualitatively," *i.e.* essentially different; more approximately: Whether the animal is qualified to form concepts, to posit ends, to choose means, in which the emphasis is to be placed upon "choose;" for that the animal performs deeds by which it realizes intentions, this is indisputably a fact (to this belongs, *e.g.*, the gathering of materials in order to build a nest, and the construction of the nest in order to hatch eggs to be laid in future). The point of the question accordingly is this: Whether the animal is conceptually conscious of its intention, and acts from its conceptually conscious intention, while in thought it combines in its consciousness the conscious intention with the multiplicity perhaps of the means coming into consideration, and out of these again selects the most suitable of every single means in the consciousness of the conceptualized manner of working? Or: Whether its intentions rest only upon obscure representations (if not entirely—as, *e.g.*, with nest-building for the purpose of the hatching of eggs¹ to be laid in future—upon instinct alone), and whether it seizes its means from an unconscious natural impulse (instinct, § 45, *Obs.*), without "choosing" them. Before we decide this question, we may even establish an entirely definite boundary-line between man and animal. Granting, namely, that animals (of the

¹ The young bird, which has never yet copulated and hatched, likewise indeed builds a nest about the time of the first copulation. It certainly has not yet any representation of laying eggs and hatching.

higher developed class) might have the capacity actually of choosing with consciousness for conscious ends the appropriate means, nevertheless the fact stands sure, raised above all doubt, that the intentions of animals do not extend beyond sustentation, self-preservation, and propagation of the race. The ends which man sets himself go far beyond these; to man (a) knowledge itself becomes an end; he learns, and observes, and reflects, in order to attain a harmonious, universal knowledge of the universe and its laws; this cognition as such is to him an end; this impulse *rerum cognoscere causas*, this inquiring after the causes (cf. § 36), is indeed present in the rudest savage, when for the explanation of striking natural phenomena, whose real causes he is not yet in the position to understand (*e.g.*, thunders, earthquakes, maladies), he, in a polytheistical fashion, invents single deities or demons as efficient causes. He inquires for causes, which the animal does not. (b) Man produces artistically; whilst with animals, at the most, a sentient fondness for definite sentient colour-stimuli occurs (what Darwin in his confusion designates as a "sense of beauty!"); man is thus able to fashion an artistic idea into a work of art, and with the rudest savages tendencies to artistic productions (to the production of forms which are felt as such, as alliteration, parallelism, besides the speaking in figures and comparisons) are found in their war-songs, which are totally wanting in animals. For the song of birds—which alone has an apparent resemblance with art—is, just as exactly as the well-known music of cats, absolutely only instinctive decoy-calling in the rutting season; no bird is able voluntarily to produce or invent a tune; no bird is a composer; every species is bound in a manner peculiar to it, and sings even so only in the definite time of year. Man can draw, paint, practise music, compose, make poetry, sing, whenever he wishes, and this artistic production is an end itself to him, and not means for a widely different end.

Obs. 1.—How wholly untrue it is, when materialists explain the rude art of savages as homogeneous with the song of birds

depending upon sexual excitation, and when they derive the higher art of civilised nations from a refinement of the cranial organ that has gradually resulted in the course of thousands of years (though such a distinction of fineness between the brain of a European and that of a dog-ribbed Indian or New Zealander has never yet been anatomically proved), the simple fact shows that in the missions on the West Coast of Africa, negroes, who themselves had still been cannibals but were then converted to Christianity, have a short time after their conversion composed spiritual songs in their mother-tongue and in its meters and moods, which indeed were quite childish but perfectly sensible, and not without true poetic beauty.

Obs. 2.—As man may, in general, make use of the animal as a means for his ends (by killing and by training), so also he may—in utilizing the imitative instinct and the vocal organs of many kinds of birds—train blackbirds to the imitative whistling of melodies which are composed by man, starlings and parrots to the repeating of human words. The animal here, and indeed without conceptual consciousness on its part, enters into the intentions of man. You can train a parrot, when it is hungry, to repeat the words: “Poor Lori!” or “James starves!” whilst you say to it frequently the very same, and every time, as often as it repeats them, give it a piece of sugar. There is then associated in it the representation of speaking these words with the representation of receiving sugar following thereupon; but it never possesses the concept “poor” or the concept “hungering.”—As in man concepts have been formed from representations (by disjunction and synthesis), so now these human concepts form in the representative life of the animal a kind of turbid, reflected image or outline, which, however, is just as little a concept as the shadow of a tree is a tree; the same has no independent existence in the animal, but has the cause of its origination without the animal in man. In an entirely analogous manner ethical traits of human character are reflected or shadowed forth in single species of domestic animals (especially dogs). Even these traits have the *causa sufficiens* of their origination not in the animal itself. The fidelity and gratitude of a dog, the abstemiousness of a well-trained hunting dog, have not the significance of ethical qualities, but are a reflex of human ethical qualities in the domain of animal-will elapsing in an instinctive form. Man indeed can, viz., make something out of the animal, which the animal cannot make out of itself, as he also, *e.g.*, can make out of metals and earths vessels and utensils, which these metals and earths cannot make out of themselves. As, however, man can make out of clay no infrangible and out of malleable

gold no fragile and brittle vessels, so also he can make out of an animal only that for which in the instinct of the species there is given a handle and predisposition; he can educate a dog, a lion, an elephant to animal attachment (the so-called "fidelity"), not a hedgehog, a wolf, a polar bear.

§ 70. *The Animal forms no Concepts.*

Let us now enter upon those questions themselves, whether animals (*a*) have the capacity to form concepts, whether therefore the faculty of disjunction and synthesis belongs to them, and whether accordingly they (*b*) are in the position to posit conceptualized ends, and to select conceptualized means. In favour of this assertion reference has been made in the first place thereto, that animals have reminiscence. This fact as such is indubitably correct, and may be daily observed. A dog, an ape, etc., after more lengthened separation again recognises its master, a cat its former dwelling-house; a carrier-pigeon finds the distant place where it had been nourished; the beasts in menageries and zoological gardens know their keepers, etc. I had in Frankfort on the Main an uncle, who had a dog which had once been beaten in All-Saints' Street by street-youths, and afterwards never ran again through All-Saints' Street; but when my uncle made his regular daily walk out through this street to the All-Saints' gate, Asor parted from his master every time at the Gunner-ward, ran through Carriage Street into Jew's Street, and came in this roundabout way to the city gate. But what does this prove? Truly not, that the dog might have had or formed concepts! Otherwise, he might in disjunction have kept apart the concept of houses, standing continually still, from the concept of street-youths, once accidentally present, and their former treatment; but thus the representation of the appearance of the street and of its houses blended with the representation of the sensation of the blows received into one undivided, undisjoined representation, and as soon as he only got sight of the street he

took fear directly, as if the blows received might have been adnate to the houses. Darwin cites a case of an entirely analogous kind (*Descent of Man*, Part I. chap. ii. p. 56, Ger. ed.), and thereupon makes a show of miracle far too fine. He had his parasol opened hanging upon a branch ; a puff of wind moved the umbrella, and thereat the dog began to bark. Darwin draws from this in all earnestness the conclusion : The dog must have reflected that every movement must have a cause, that consequently a movement without a visible cause points to a strange, invisible, living power ; the dog, therefore, has performed an analogous mental operation as a savage, when he conjectures (!) a thunder-god behind the thunderstorm, and thus honorary Darwin in all earnestness infers from that dog-barking: that religion is nothing peculiar to man, but may occur just as with animals, and that consequently the origination of religion may be explained from the purely animal life of the brain. This conclusion will have to be acknowledged as quite excellent as soon as the noble Briton will only have first proved to us, that a dog at all possesses the concept of "motion," of "cause," of "visibility," of "strangeness," of "invisibility," of "living," and of "power." As long as this is not unsealed, the entire deduction remains a very common imbecility, which, moreover, in that book does not directly surprise us. The true explanation is simple enough. The perception of the oscillating umbrella, with its projecting fish-bone or steel point, excited in the soul of the animal immediately the representation of a threatening attack, of a threatening injury, and the fear in presence of such a thing ; therefore the brute barked. The phonetic perception of the sound, "Alla, kss, kss!" would have had entirely the same effect. Steinthal, who has examined very carefully this side of animal life, denies (*Entstehung die Sprach*, p. 324, § 426) to the animal with full justice the faculty of concept-forming. "The dog distinguishes dogs from one another, men from one another, a dog from a man, and both from a horse. But what does this prove ? Perhaps, that he

apprehends man as this peculiar species of being, that he apprehends the horse as this peculiar species of animal, and contrasts them as different species to the species to which he belongs? The dog distinguishes a dog, a horse, and a man as three different individuals, as he distinguishes different dogs likewise as separate individuals. He sees, of course, inevitably that a man and a man are more resembling each other than a man and a horse; but he does not determine the degree of resemblance according to the species; he does not grasp the resemblances persisting within definite limits as species. The dog distinguishes the dog from the female dog; well, does he distinguish in his consciousness also a masculine and feminine gender? Will he apprehend a bitch, a cow, and a woman, as of feminine gender, a dog, a bull, and a man as masculine? Does the bitch know she is fecundated, will become pregnant, and bring forth young, which she has then to suckle? Does she know of the causal connection of these occurrences, or even only of the temporal succession of the same? Well, no one is authorized to assert this. She follows the unconscious sexual instinct of copulation. But then she knows just nothing of genders."

Obs.—Even Dr. Fr. Strauss (*alter und neuer Glaube*, § 76) concedes, "The animal remembers, compares different incidents, and acts accordingly; but it knows not to form from them a general principle, an actual idea." On the other hand, for the assertion that the animal possesses the concept of masculine and feminine gender, Darwin has referred to the case, that "a lecherous monkey on the approach of a woman has showed agitation." But this was called forth in the most animal of all ways, by its smell, and not by a "concept of the feminine gender" present in the monkey. If the monkey had formed the concept, he would have been obliged previously to form the concept of man and that of monkey, before he came to the more abstract concept of both sexes. That case, however, proves directly this, that to it the concepts were wanting.

§ 71. *The Animal posits no Ends, chooses no Means.*

If the animal forms no concepts by disjunction and synthesis, it has at least no memory, though it has reminiscences (*i.e.* being again conscious of acquired representations); since it does not think in concepts, it is not able to hold firmly that which is conceived, nor even to search again and discover by means of combinations of concepts a matter of memory that has escaped from consciousness. But now, from this there immediately follows, that of a conscious positing of ends and choosing of means (*i.e.* even of a positing of conceived ends and of a choice between means, inclusive of their mode of working) there is with the animal no question.—All that which Darwin has cited in behalf of such a thing is transformed by considerate reflection into the proof of the opposite. Unto what exorbitant degree of confusion and thoughtlessness has this great thinker been brought, is to be gathered therefrom, that, as a voucher for the conscious positing of ends and selection of means, he cites (p. 43) the following case: “A monkey was taught to open the lid of a chest by means of a stick (as a lever).” Well then, was it therefore the monkey that discovered the law of the lever?! Was it the monkey that apprehended the design to open the chest, and for this purpose chose the stick-lever as a means? Or, was his teacher possibly an ape? To mimic the designed actions of men does not mean: to posit ends.—Not much better is a second example (Darwin, *ibid.* p. 40): “A hunt-dog was to fetch two ducks with maimed wings that had been shot; since he could only take one at a time in his muzzle, he bit the other dead, in order that it might not in the meantime fly off.” Here again the dog had no other end than that which had been set to him by man, and to which he was trained: to fetch ducks; the end, which this fetching itself was again to have (that the ducks might be eaten), he not only did not posit, but he did not even comprehend it and frustrate it, since he bit the second duck dead. That he feared the flying

off of the duck with the maimed wing that had already been shot, was not clever but stupid, and begotten from want of concepts. With the perception of the animal still moving the confused representation of the flying away of the same associated itself, and at the same time that of the blows which he had received when he had let a duck escape. Since then he instinctively, because without rational choice and without conceptual insight, seized upon the unsuitable means of biting to death, he did not by any means act more skilfully than that bear in the fable which cast a piece of rock upon the gnat sitting upon the head of the sleeping hermit.—A third voucher by Darwin (p. 300) is: A crab digs for itself its customary hole for a lair. A mussel rolls into it. It removes this mussel, and drags it away, perhaps, a foot distant from the hole. Then it sees several inches from the hole a few other mussels lie, and, moreover, now carries these also away until a foot distant from the hole, “in order that these should not also fall in.” Again he is very clever, and yet extremely stupid. The mussels lying distant several inches from the hole were by no means in danger of rolling into the hole; this, however, the stupid crab did not know, because it had no concept of the centre of gravity and of the law of falling; but it started at once to the dragging away without including an object therein. This is as certain as that the animal could possess no concepts of the laws of falling and of the inclined plane.—Fourthly, p. 39 f.: “Monkeys, to which were given eggs, at first broke these in pieces awkwardly, afterwards struck them carefully upon the one end.” First they played wantonly therewith, as they would play with stones; but when they learned by scent that in these supposed stones there might be edible contents, their instinct urged them forthwith to open the eggs carefully. Their instinct we say; for these monkeys did not act even as shrewdly as the fitchet, the marten, and the weasel. These even make at opposite ends of the ice a little hole, before they drink out of it; that they do this, however, from instinct, and not from conceptual

insight, is certain ; for of the law of atmospheric pressure, in virtue of which, besides the tap-hole, a bung-hole is necessary, they know nothing. Fifthly, *ibid.* p. 300 : “ A wasp instead of sugar had been wrapped up in a paper and given to a monkey ; when he opened the paper, it stung him ; henceforward he held such papers, which they gave to him, always first to his ear, whether he might hear something hum.” Evidently, therefore, he had also that first time heard the wasp hum in the paper before he opened the same. Now—entirely analogous, as with the dog of my uncle, above, § 70—the representations of humming and that of the received sting are inseparably associated with one another ; the choice of means : holding the paper to his ear, is explained not so much from the instinctive but from the immediately sentient-physical consciousness that he hears not with the anus or navel, but with the ear. Here, again, nothing is to be discovered of a positing of conceived ends. If you had wrapped up a second time in the paper for the monkey fulminating powder, he would have opened it unhesitatingly, merely because it did not hum. If you had put into it a harmless house-fly, he would have thrown it away with fear. He had not even the concept of the roguish trick which you wished him to play, but only the pair of the two representations : humming and sting grown confusedly together. — Further vouchers than these five for the conceptualized positing of ends and selection of means by animals, Darwin has not been able to produce, and these five prove only the opposite. We are convinced therefore : The animal has aims and has recourse to means ; but the aims are not conceptually thought but represented, and the means are likewise not understood in their working but conveyed to the animal, partly by instinct, partly by the circle of representations. There exists, therefore, between an animal and man no merely graduated (quantitative) distinction, but an essential, qualitative distinction. And so far the same permits not of being formulated, whether the animal “ with consciousness ” posits ends and has

recourse to means; for consciousness we must always ascribe to the animal, as far as it is a percipient, representing, volitional subject; but its consciousness is no consciousness of concepts, but only of representations; certainly, therefore, it is not a state of being conscious (*conscium esse*) in the strict philosophical sense, but only a life of representation or "consciousness" in the lower, common sense. The animal has a world-consciousness, but no self-consciousness, it is not an ego cognizant of itself. For were the animal an ego cognizant of itself in absolute self-equality, it would in this self-knowledge (according to § 32) possess the faculty of forming concepts, and should it attain to the possession of concepts it would posit conceptualized ends and choose conceptualized means. It has, however, only intentions; still an intention is not an end; when a fox rushes upon a hen he has a design on this hen, but from a mere natural impulse of hunger. The intention is an immediate volition, a volition realizing an immediate representation; the end, on the other hand, is the positing of a conceived goal, which is to be reached by a conceived series of causality. And now, moreover, the intentions of animals do not go out beyond self-preservation, nutrition, and propagation.

Obs.—A dog may be trained to add figures, *e.g.* to place a 9 to 3 and 6 that have been laid before him. But he has no concept of the meaning of this arithmetical number, to say nothing of a concept of the magnitude of the number itself. Hence he never for himself alone falls to reckoning, he does not even reckon farther than he is trained.

§ 72. *The Animal has not Intellect but Instinct.*

Consequently the animal is indeed a subject, but no self-conscious ego cognizant of itself. Darwin again thinks to utter something specially wise, when he says (p. 53): "When a dog after years recognises his former master, he thus proves that he has retained his intellectual (*sic*!) individuality, although every atom of his brain has changed." Without regard to the "intellectual" individuality, this is perfectly

correct ; here Darwin has become a Balaam, who must confirm where he wishes to refute. That act of reminiscence of the dog proves beyond contradiction that in an animal the soul is more than a function of the brain, that it is actually an incorporeal monad. But that the animal were a monad cognizant of itself, an intellectual individuality, this is not in the least proved thereby. The animal is a subject, but it is not an ego, and has therefore no intellect ; for, as it has not the capacity to disjoin and unite qualities in concepts, so it has still far less the capacity to conceive the universal system of known concepts as the unified contents (intellectual contents, § 55) of itself and to distinguish it as such from itself. —To the animal, its sentient perception and representation always coincide immediately with itself in a unity. The animal is not an intellectual individual, because not a thinking and cognitive individual ; it has no intellectual contents ; but the intellect wanting to it is supplied to it by an intellect extraneous to it, *i.e.* by a complex of vital laws, which plainly do not proceed from the animal, are not even discerned by it, which rather are absolutely given to it, and according to which its excitations of will follow with natural necessity (wherein then lies the essential distinction between the animal and the human will, § 45). The complex of these laws we designate as instinct. Downwards instinct is distinguished from the law of becoming of organic corporeity (*e.g.* the laws of sanguification, of the circulation of the blood, of digestion, etc.) thereby, that it does not regulate and determine these involuntary functions of the monads of middle and lower order (the ganglionic centres and individual cells), but the indivisible will of the monad of higher order, of the “vital monad,” or “soul” of the animal. Upwards it is distinguished from the animal’s conscious life of representation and the sphere of intentions or of intentional actions of animals thereby, that it operates like these, not only without concepts and in a non-conceptualized manner, but even unconsciously and without representations, in the form of a mere natural impulse. E. v. Hartmann quite

correctly defines instinct as "suitable acting without consciousness of the end" (and we must add without consciousness of the adaptation of the means), or: "conscious selection of the means" (more exactly: of the action which, unconscious to the animal, becomes the means) "for an unconscious end."—That the instinct of the animal is hereby very sharply distinguished from the artistic skill of man, Darwin sees himself necessitated to concede (p. 32): "The beaver builds its canal, the bird its nest, equally as well the first time as in its old age. Man learns to make the simplest implements only through practice" (and reflection). By instinct the animal avoids poisonous plants and means of subsistence; impelled by instinct, it fixes its lair or nest in a manner and in a place where, together with its young, it finds the greatest possible protection from the weather and from living enemies; led by instinct, hamsters, foxes, jackals, also dogs conceal their food, gained as booty, in holes and hiding-places, and put it in store-rooms in places where other animals cannot easily take it from them. Whence Darwin, of course (p. 43), has drawn the superb conclusion, that the animal "has the idea of property"!!¹ Instinct impels the female bird to place herself upon the laid eggs; the animal knows nothing thereof, and has not even a representation thereof, that in the egg there is an embryo,—for indeed after laying eggs for the first time it hatches,—and that this embryo needs a high degree of heat for its development; so little has it a representation of this, that a hen, if you take the eggs from her, and instead of which lay down wooden eggs, she even remains her brooding time sitting upon these; the case has even been established

¹ For this he refers also specially to a "dog which does not let a bone be pulled out of its mouth." Why not also to a thief who steals my watch from me and conceals it? Who, according to this, likewise verily possessed and realized the "idea of property!" Is then Mr. Darwin really so ignorant, that he is not able to distinguish the concepts: possession and property? Possession is a simple fact; property, on the other hand, is legitimate possession; the idea of property presupposes the idea of law, and this the dog will, well, with difficulty, suck out of his stolen bone.

that a hen held out her brooding time upon an iron set, which was shoved under her instead of eggs. She has no knowledge, and not even a representation of the end of the brooding, and of the adaptation of the means, and nevertheless she executes, even to the most particular details (cf. above, § 45), exactly the most suitable means, and no genus or species ceases with the application of these means, with the brooding, before their end, unconscious and unknown to the animal (the coming forth of the young from the shell), is attained. Here the will of the animal stands under a law operating irresistibly in the form of natural impulse and of natural necessity, and indeed a designed, wise, intelligent law.

Obs. 1.—That instinct cannot be explained from corporeal organization, E. v. Hartmann (A. iii.) has very well proved. He has likewise drawn attention to the important fact that the animal fulfils the commands of instinct even with the sacrifice of its own life. They took from a wryneck the egg which it had laid; it laid a fresh one; they took away from it every time the next one laid; the impulse to have in the nest an egg for brooding was so powerful, that it laid continually a fresh egg until it fell down dead from exhaustion. Finally, Hartmann has very strikingly proved, that instinct admits not of being explained from conscious reflection, and just as little from gradual exercise. The female larva of the stag-beetle before its metamorphosis digs for itself a hole as large as itself; the male, however, digs one which is double as large as itself. And yet the latter does not know, and cannot know, that after its metamorphosis horns will grow to it as long as all the rest of the body, and that therefore it will require double space.—An insect, the bombex, kills another, the parnope, without making any use whatever of its corpse. That the parnope lies in wait for the eggs of the bombex, the latter cannot know; for it lays eggs only once, and, at the time when it pursued and killed the parnope, has as yet laid none. And yet instinct causes it to take care of its future eggs. The female ostrich (G. Rohlfs, *Across Africa*, ii. 106) lays in the desert a number of eggs outside of her sand-nest, and leaves them unhatched. These eggs then serve for food to the young that have broken the shell, as long as they are not yet in the position, like the old, to traverse great distances in the course, and to seek food for themselves.—Field-mice bite the buds off the ingathered

grain, although they do not know that these buds will be developed, and that hereby the nutritive substance of the grain, the strength, would be transmuted into gum and grape-sugar, and consequently be made unserviceable. Migratory birds withdraw toward the south before want of nourishment or cold necessitates them; then they return with a temperature which is lower than that with which they departed.—Pigeons and dogs that have been turned round twenty times in a sack, and then carried far away, run (fly), when the sack is opened, the direct way home. Before a severe winter the turtle digs its lair deeper; before a coming inundation the beaver builds its dam higher. Nine till twelve days before the entrance of severe cold the winter and corner spiders become restless and quarrelsome; some days before the entrance of a thaw they creep into their holes. Hartmann names this “a kind of clairvoyance” with much injustice, since the animal does not therewith see clearly, and generally not at all, and is not conscious (as the clairvoyant man, § 59, *Obs.* 2) of those things, but unconsciously follows a law operating with natural necessity. How much the point in question here is concerning a natural necessity operating upon the animal as unconscious, we see thence, that even in the domain of the involuntary vital functions the analogous arises. The fur of stags grows thicker before more severe winters. The cuckoo lays eggs in every strange nest, of exactly the colour which the eggs of the inhabitant of this nest have (*e.g.*, in that of the *sylvia rufa*, white, with violet dots; in that of the *sylvia hypolaïs*, white with black dots; in that of the *sylvia phœnicurus*, verdigris), so deceptively resembling that even the naturalist is able to distinguish the eggs of the cuckoo from those of the nightingale only by the structure of the shell. Now, firstly, it is evident that the female cuckoo was not by reflection in the position to give the one or other colouring to the eggs contained in her belly, even if she wished; but, secondly, the cuckoo does not even see in all cases the eggs of the *sylvia* to which its own eggs become similarly coloured; the nest of the *sylvia rufa* has a narrow passage for the entrance, so that the female cuckoo must lay her egg on the outside of the nest, and then convey the same by means of her beak through the narrow passage into the concealed and dark nest. Here also is an involuntary vital function. If, however, we now turn back to instinct (the voluntary and conscious action which unconsciously becomes the means for an unconscious end) there still belong thither, among the vouchers adduced by Hartmann, the following: Eggs are laid in a place where the young, breaking the shell in future, find nourishment. Many gadflies lay their eggs on the lips of

horses, whence they are swallowed down into the intestines and are evacuated with the excrement; in this the larvæ that have broken their shell find nutriment. Hornets pile around every fresh egg maggots which, near the time of the pupa-change, can live a long time without nourishment, so close to one another, that they cannot be changed into chrysalides; these serve the wasps creeping forth for food. The *cerceris bupresticida* kills three beetles and pickles them with a fluid which it injects into them from itself, that they may be preserved unputrified as food for the young escaping from the egg. The young ants are not able to free themselves from the web of the pupa; the old open each of the same exactly in the right moment, when the inhabitant is ripe for creeping forth.

Obs. 2.—Darwin explains instinct partly (according to Lamarck's precedent) as an "acquired habit," partly from "individual modification of instinct in consequence of natural selection," as if the origination of A could be explained by the modification of A, for at least that which is to be modified must first exist already! Against both attempts of explanation, cf. Wigand, i. p. 349 ff. Against the former: "The flesh-fly, which lays its eggs in those places where the brood creeping forth immediately finds suitable nutriment, can, since it does not often in life practise the laying of eggs and does not experience the result of its doings in its posterity, neither acquire an experience nor a habit" (cf. also above, in our *Obs. 1*, the yet more striking examples of the parnope and the stag-beetle).—Against the second (Wigand, p. 351): "If the flesh-fly lays not its eggs in flesh in virtue of that instinct, the brood, and therewith the entire species, goes to ruin at one stroke, because it belongs to the nature of the species that the larva needs flesh nutriment." Flesh-flies cannot, therefore, have appropriated gradually in the course of time, through variability and natural selection, that mode of experience.

Obs. 3.—When E. v. Hartmann attributes instinct also to men, and reckons therein shame, nausea, the fear of death, the passion of little girls for dress and doll-play, the combative disposition of boys, the mother's love for her suckling, the impulses of gratitude and revenge, and finally the love of sex, so therewith he only strikes in the face his own correct definition of instinct. Shame, nausea, and fear of death are not actions but feelings; passion for dress, combative disposition, maternal love toward the infant, are likewise no actions but impulses (cf. § 43), which make their way through the conceptual consciousness before they lead to actions (for the "woman lying-in, who starts up from sleep at the faintest sound of her infant," knows why she does so, and the little girl,

which dresses her doll, does this not for the attainment of an end unconscious to her; she provides therewith, not in an unconscious manner, for the children which she will in future one day bear, but in an entirely conscious manner for her present amusement; it is a consciously designed satisfaction of a present impulse, no conscious action for an unconscious end). The love of sex as "amorousness" is a feeling, and even as such in man is not without ethico-intellectual affection (not a merely passionate, natural occurrence); to actions (declaration of love, proposal of marriage, or in the worse case, seduction) it never comes without consciousness of intentions and ends. Gratitude and vindictiveness are likewise in the first place feelings, but depending on consciousness, and they never become actions without consciousness of the end: to prepare something agreeable for the benefactor, something disagreeable for the evil-doer. It is inconceivable how Hartmann can allow himself to be carried away in explaining all these things as "instinct," whilst he (p. 165), nevertheless, even discerns quite correctly, that "nature denies instinct there, where it has bestowed the means for conscious performance."—Perfectly confused, however, is Darwin, when, with man, he reduces to an "instinct of man" actions which are partly merely reflex-movements (as the involuntary back-motion of the head before an object moving suddenly toward the eyes), partly belong to unconscious (§ 51 ff.) action (as the avoiding of stones in walking). He even affirms quite correctly that instinct is never acquired by practice. The use of the motory organs is, however, acquired by practice with animals as with men, and is then executed at will by animals as by men.

§ 73. *Adaptation in Nature.*

If, now, we have already, § 63, been convinced that the real, the actual entities in the world are not the phenomena themselves, but the laws appearing in them, and that these laws are not abstract rules but efficient laws, *i.e.* powers (partly vital powers or monads, partly laws operating in inorganic complexes of powers), so now the further result, § 72, has followed, that the multiplicity of these laws exhibit themselves as a regulated harmonious system of laws operating with design. Let us next recapitulate the structure of this system. In inorganic "bodies" the physico-chemical laws operate; inorganic bodies are nothing else than complexes of

powers in which physico-chemical laws operate. In each of the organic bodies there still operates, beside those physico-chemical laws and on them and in them, the monad of higher order, the vital monad, which again is active in every ganglionic centre as a monad of middle order—in every elementary cell as a monad of lower order, and evokes a co-operation of all the different elementary cells and individual organs for a unified end. In each of the animal organic bodies the vital monad of the same still operates simultaneously as a percipient, representing, volitional subject continuing the same (but not cognizant of itself as identical with itself). Every such animal-subject, again, is in its volition plainly determined by a complex of laws of a still higher and more general order, by instinct, which places the volition of the individual animal in unison and harmony with the physico-chemical and organic laws of collective nature. Finally, in man the vital monad is not merely percipient and volitional and continuing the same, but cognizant of itself as identical with itself, *i.e.* self-conscious, and therefore capable of forming concepts, of thinking, of positing ends, and of choosing means, hence a free, volitional subject, *i.e.*, an ego. Let us now turn away from the fourth stage, from man, who as free-willing posits his own ends, and therefore is able to posit ends even contrary to nature (what experience confirms; we have only to think of a man who wantonly shatters his health!), consequently ends contrary to design (*i.e.*, individual ends opposing the ends of collective nature)—let us as yet turn away from man, and therefore from the domain of freedom and of intellect, and keep ourselves first to those three lower stages (inorganic complex of powers, organism, animal-subject) which, standing under the laws of natural necessity, make up nature (in the sense of § 18). Now we find there, that in each of these three stages the system of laws operates with reference to an end, that all nature is one great teleological system. The truly silly objections which are raised by Hæckel and others against adaptation in nature will receive in part its special refutation in Book II.

sect. 2; for the present our problem is positively to discern and prove that teleology. This knowledge admits of being summarized in three theses:—

1. The laws of the inorganic world are ordered for the design of the making possible and of the subsistence of organic beings.
2. In single organic beings the laws of all elementary cells and individual organs are ordered for the design of the collective life of the organism.
3. In the totality of nature, (α) the physico-chemical laws, further (β) the laws of becoming of the entire organic kingdoms, classes, genera, and species, and finally, (γ) the laws of instinct of all the classes, genera, and species of the animal kingdom, are ordered for the design of the maintenance of organic genera and species.

Obs.—In addition to this, cf. Wigand, vol. ii. p. 207. The nearest and the immediate problem of the philosophy of nature as such is the causal explanation of natural occurrences, *i.e.* the investigation of the causal nexus. The problem of the naturalist, moreover, as far, indeed, as it is not forbidden him to be also a philosophically thinking man, goes out beyond the causal nexus, he is not and will not be permitted to shut himself up from the final nexus. The agency of the efficient cause of itself leads him to the agency of the final cause. Thus Wigand *l.c.*, says: "What is the reason for the origination, *e.g.*, of the eye, which develops itself, indeed, according to the causal principle, but neither with its first appearance nor during its development has it any significance whatever for the organism, but only then, when the causal development is ended, does it enter on its function? Or, that the growth of the year's impetus terminates already in spring with the putting on of under leaves which, however, only in the following winter as protecting bud-scales, show themselves as useful for the plant?" etc.

§ 74. *Proof of the first Teleological Thesis.*

If we proceed from the general necessities of the life of organisms: light, heat, air, water, food (and for a large part of the same: firm ground), we find all these general conditions

of life given in the most eminent degree upon the globe which we inhabit. (And that this is only the case upon our planet we will prove below, § 143.) The physico-chemical laws, however, are so conditioned that those conditions of life are not only given, but are also continually maintained and constantly repaired. If the combination of hydrogen and oxygen, which we name water (fresh water), had, at a temperature of the degree zero, Cels. or Réaum., its least extension, consequently its greatest specific gravity, the infallible consequence would be this, that with the freezing of water all ice-crystals forming themselves would immediately sink to the bottom; instead of surface-ice, ground-ice would form itself in the sea and rivers, and thus the mass of water would be transformed from below upwards into a sole mass of ice. This would be not only the death of all animals and plants inhabiting the water, but, moreover, no summer heat would suffice to melt again these masses of ice; with the partial melting of the same, such quantities of heat would become latent that ever a greater cooling of the strata of the atmosphere, a procession of the frigid zones from the poles toward the equator, and consequently a gradual glaciation of the surface of the earth, would ensue. At present, however, it is not so with it, but the natural law exists, that water at about 3° Réaum. has its least extension, consequently its greatest specific gravity, and at 0° , *i.e.*, at the freezing point, again extends itself somewhat, consequently becomes specifically lighter.¹ Hence the ice-crystals swim upon the surface of the water, form here a covering of ice, which increases in thickness from above downwards, and as a bad conductor of heat preserves the water contained beneath warm, so that not only do the inhabitants of the water remain alive, but also the vernal sun is able to thaw the ice. This law operating here consequently

¹ With the saline water of the sea, where, moreover, by the depth and by the constant medium temperature of the deep strata of water the danger of a formation of ice at the bottom is indeed precluded, that law of the least-extension-temperature undergoes a modification, according to Payer's observations.

operates very suitably to the end or teleologically. Whether this law has an intelligent author, we do not yet ask; the materialist may for our sake explain the same as a happy accident, or as a *causa secundaria* without a *causa prima*; we here only affirm the fact, that a gigantic multitude of conditions, which were indispensably necessary for the preservation of organic life, is attained by that simple law. Further, how through the law of the evaporation of water by heat, the circulation of water, the formation of clouds, rain, and wells, and therein a second, a positive condition of all organic life is given, is too well known to be required here to prove it further in detail.—If we turn from the water to the air, there is provision made by the law of the diffusion of gases for the constant renewal and purification of corrupted air. But not by this alone; the vegetable and animal kingdoms also co-operate for this purpose, since the carbonic acid given off by the animal kingdom into the air is absorbed again continually by the vegetable kingdom. Both kingdoms here act upon an inorganic complex of powers ("matter"), but the ultimate design, moreover, is the making possible the continuance of the life of both organic kingdoms; the carbonic acid given off from the animal kingdom serves for food to the vegetable kingdom, and its absorption by the latter makes breathing possible in the animal kingdom.—If we glance at the laws of light and sound, it would be of no great importance for the continuance of inorganic nature whether the rays of light propagated themselves only rectilineally or in curves (as waves of sound); for the sake of organic beings—indeed, for the sake of plants, the illuminated and non-illuminated surfaces of whose leaf stand in different relations, but above all for the sake of the perceiving subjects—it is indispensable that the ray of light propagate itself rectilineally; otherwise no eye would receive an image of an object, all impressions of light and colour would jumble themselves together in a formless grey-brown colour. But just as necessary is it that the wave of sound propagates itself, not merely rectilineally, but

also in curves; otherwise we would not be in the position to hear a noise or a sound, between whose source and our ear there existed the least object conducting sound badly; but therewith the design of hearing would in general be frustrated. The design of seeing is just the perception of objects existing in space beside one another, that of hearing the perception of the vibrations of sound following temporally after one another. We cannot and do not wish to pursue this immense province farther into the minutiae. That which has been brought forward suffices perfectly to make clear to us that, if organic life were to be made possible, those laws of the inorganic kingdom were unconditionally necessary. Very easily might it be further shown in individual instances, that the smallest title in the laws of inorganic nature could not be removed without immediately endangering the existence of the organic. (What, at least, would arise if the proportion of the mixture of atmospheric air, $O_1 N_4$, were not regulated and maintained by an efficient law? If this proportion were changed to $O_2 N_1$, a sheath of water would surround us instead of a sea of air!) This, therefore, may be said with all definiteness: Organic beings do not exist for the making possible the existence of the inorganic (the latter can exist quite well for themselves alone, as, *e.g.*, on our moon), but inorganic complexes of powers and their laws exist for the sake of organisms. If organisms are to be, the laws of inorganic nature must be so, as they are.¹ Their existence in such a form corresponds therefore objectively to the design of making possible an organic nature. Whether this design as a design is posited subjectively, is now a second question, which we do not yet examine here, the affirmation of which

¹ Wigand, *l.c.*: "How comes it that the periodicity of plants, depending on internal causes solely, coincides with the telluric periodicity, that, *e.g.*, the time of repose, coinciding with the winter, is already provided for during the summer by the accumulation of reserve material? How comes it that in air, water, and soil, there lie immediately ready those substances which correspond to the nutritive necessity of the plant according to its inner nature?"

we consider still as problematic. It suffices us for the present to establish that if the design, that organic life exist, is posited, the actually given laws of inorganic nature are throughout not, namely, contradictory, but corresponding to such a design.

Obs.—The conjecture, that in future a glaciation of the earth will yet one day occur, stands consolingly over against the opposite, that the earth will one day fall into the sun and be burnt up. We have to base our knowledge of the nature of things upon that which we perceive as facts, not upon fanciful conjectures, concerning which no one can give certainty. A future destruction of our planet may even be conceded as possible *in abstracto*; therewith, however, no real knowledge at all is as yet gained; the true question is, whether the entire totality of present nature is at all destined to endless continuance; the answer to this question is only possible when the one collective design of the present system of the world is known; but in order to advance to this knowledge, we must take our point of departure from the facts lying before us, and not (as Dr. Fr. Strauss, *Old and New Faith*, p. 226) from extravagant fancies.

§ 75. *Proof of the second Teleological Thesis.*

(a) *Vegetable Life.*

Those who deny teleology in nature—they are the same who deny the monadical vital force in the individual—think to have done everything for the proof of their assertion when they prove, that in the existing plant, in the existing animal, the collective functions of the corporeal life admit of being explained from the working of the general physiologico-chemical laws. It is true: when an oak tree or a rose bush but once exists, then the sun's heat effectuates an evaporation of the moisture on the surfaces of the leaves according to the same law which, as a general physical one, operates also in inorganic nature, and the sap ascends up through the narrower among the vascular bundles according to the same law of capillarity which acts also in inorganic nature, *e.g.*, in a little inanimate glass-tube. But even here, as has been said, the plant is already presupposed as present and existing with all its organs; now the remarkable thing, however, is this, that

this plant, with its development from the germ of its seed-kernel, and with its growth, constructs itself this entire apparatus of organs themselves, that it even lays in supplies for the future construction of certain organs (*e.g.*, storerooms of cambium). This is an occurrence which in inorganic nature has no analogue. Inorganic nature nowhere constructs apparatus for future physico-chemical processes (*cf.* above, § 68, also § 65, *Obs.* 3), but man invents and constructs apparatus, is not, however, in the position to make such apparatus, which were even in the remotest degree as fine and complicated as the microscopically fine apparatus in the vegetable, each of which as a rule serves not only one design alone but at the same time several (*as, e.g.*, the leaf of the plant evaporates water, and again absorbs the vapour of water, secretes oxygen, absorbs carbonic acid, and prepares chlorophyll). And, moreover, these organic apparatus are yet distinguished from the artificial ones, prepared by man on application of physical laws, thereby that they do not constantly wear out, but even restore and renew themselves continually for a long space of time, or at least produce new ones in place of those worn out or transformed (*e.g.*, of the alburnum cells transformed in wood). For the restoration, however, of these physico-chemical apparatus, *i.e.*, organs, the plant prepares chemical combinations, which do not occur in inorganic nature, and do not admit of being produced in the way of experiment on application of general physico-chemical laws from inorganic elements, but only of being secreted from extant organisms (*as*: starch, gum, sugar, alcohol, ether, fats, soaps, wax, resin, the different vegetable acids, furthermore, mucus, gluten, albumen, fibrine, caseine, glue, cambium, chlorophyll); finally, single species of plants prepare peculiar alkaloids (*as, e.g.*, quinine, morphia, caseine, etc.).—To this there is added an important fact. Unless the external conditions of life change, there enters in the development of the plant, of course, solely according to a law of becoming immanent in it, a point, where definite organs and the sphere of organs are transformed

—one leaf-sphere is transformed to a sepal, a second to a sphere of the petals or (in case these grow together) of a corolla, a third to a sphere of the pollen-leaves (stamens), a fourth to a sphere of the fruit-leaves (pistil)—and even where all these spheres do not occur, even with cryptogams where none occurs, there nevertheless enters, in respect to the formation of spores, a definite stadium of metamorphosis. With our pomaceous and amygdaline plants we might wish to explain this metamorphosis mechanically from the Spring's heat; but how with plants which—there may follow upon a cold May a warm June, or upon a warm May a cold June—begin to bloom in the end of June (as the *oenothera biennis*), or only in end of July (as *tanacetum vulgare*), or which bloom forth from February until October (as *bellis perennis*, *medicago lupulina*, and others)? Now, moreover, that in the stamen the pollenium is formed, and that pollenium-utricles sink down through the stigma into the pistil in order to become the seed-germ in the receptacle—that by this process the calyx transforms itself into the epicarp (*e.g.* squame; flesh of the apple), the fruit-leaf (pistil) into the pericarp (*e.g.*, flesh of the plum, shell of the acorn, core of the apple), the fruit-bud (egg) into the fruit (*e.g.*, the white pod of the bean-kernel, seed of fir-tree, kernel of apple, kernel of plum, kernel of acorn); this is a second metamorphosis, which, just as little as the former, admits of being explained from the general conditions of life or general physico-chemical processes. No doubt this, that both metamorphoses take place in a specifically definite manner with each family, genus, and species—that, *e.g.*, with all families of plants, which we, for that very reason, reckon in the class of the monochlamydeous (*e.g.* *polygonum*, *urtica*, *aristolochia*, etc.), the stamens are surrounded only by one circle of petals (the “perigonium”); that in certain families of plants the stamens are grown together with the thalamus, in others with the rim of the calyx, in a third with the corolla; that in the one species of plants the flowering parts are fivefold, in the other threefold, and so forth; in the

one the sphere of the petals assumes a symmetrical form, in the other an unsymmetrical form—this all, firstly, confirms the result obtained already in paragraph 65, that the vital process, in which the plant builds itself up, absolutely presupposes an inner law of becoming, *i.e.*, the administering and operating of a vital monad. But, secondly, we are also now convinced that this monadical power is one operating with design. From the first moment on, when the young germ bursts from the seed-hull and begins to develop itself, the entire series of occurrences of vegetable life, so immensely complicated, is founded thereon, that the vegetable individual produces blossom and fruit (in the cryptogamia instead of both: spores), and in it the germs of new, homogeneous, vegetable individuals. Now between both these extreme points of reproduction the vital process of the plant so elapses that all its separate “systems” (cellular-system, vascular-system, pith-system) and all its separate “regions” (root-region, stalk, foliage-region, petal-region) are mutually necessary to one another, mutually condition its growth and its development, and so co-operate according to one unified plan, that none of those species of organs are likely to fail without injuring the whole.—Now whilst we in the preceding paragraph, with the first teleological thesis, could acquiesce in saying: “If the making possible of organic life is posited as a design, the laws of inorganic nature are corresponding to such a design.” Whilst, therefore, we laid it down there as yet problematical, whether such a design be posited, and still did not feel authorized to venture to conclude immediately from the adaptation of the means to the existence of an end; so here it stands quite differently with our second teleological thesis. Here end and means do not lie beside and without one another, and do not allow themselves to be separated. Here rather we have the facts of a vital process before us, which visibly aims at a goal lying in view, and aims at nothing else at all, and from this, its point of aim, by no means admits of being separated. Here you cannot say: “If it were the design of the plant to reproduce itself in

flower and fruit, the vital process of the plant were for this purpose a suitable means," but the plant is even in this self-reproduction really included; its existence and life is nothing else than self-reproduction. To assert: this self-reproduction in the seed (which nevertheless takes place with all plants) may be an accidental consequence of an accidental coincidence of external causes—this, candidly, would be insanity. Indeed we have just already sufficiently seen that this process is not at all to be explained as an accidental result of physico-chemical laws and inorganic influences, but only as the action of a vital monad, of an efficient law of becoming, which even initiates and guides this process of life, *i.e.*, of reproduction as an indivisible one. And he who (led astray by a phenomenon whose correct explanation is already given above, § 67) would not acknowledge in the vegetable individual an indivisible monad of higher order, must nevertheless see himself at least necessitated to the concession, that (what no botanist denies) a capacity of special development is peculiar to single cells; and whether with Hippocrates you wish to designate this as *ἐνορμῶν*, or with Blumenbach as *nisus formativus*, or with modern naturalists as impulse, this alters the matter nothing at all. The fact stands firm: the vegetable cell possesses the power to enter into a series of changes, which are conditioned, but not determined in their specific nature, by the general physical, external conditions (§ 68). But now the *prima causa* of these occurrences cannot possibly be sought in the individual cell, because all these individual occurrences of all individual cells systematically conspire to one goal. The single cell of the germ which expands to a canal knows indeed nothing thereof, that such canals are necessary in order to convey sap to the future branches and leaves. The cell which secretes cambium knows nothing thereof, that this cambium is necessary to the future formation of new organs; the cell which is concerned with the formation of a leaf-bud knows nothing thereof, that the origination and existence of leaves are necessary in order to

convey to the entire plant the requisite amount of carbonic acid for removing the oxygen, etc. And, notwithstanding, all these millions of microscopically minute cells operate towards the one goal just as suitably as the members of an immense army, which is led by the command of one general and whose unified plan of the war it carries out. If, now, we see portions of the troops dispersed over whole provinces, whose single leaders and officers know not the commander-in-chief's plan of the war, though they thus operate, that they all, each on his part, co-operate to the execution of one such unified plan of the war, we, as far as we are of sound understanding, draw the conclusion, that such a plan of the war, fixed by one general, must be existent. A plurality of means, which co-operate to one unified design unconsciously to themselves, admit always with certainty the inference to be drawn to a design-setting author. (See *Obs. 2.*) Or with Wigand: "*A causa finalis* we name such a cause, which in the primary stadium sets in motion two (or several) series of causes, from whose course goes forth a relation of dependence or a reference to an end of their mutual products; it is the immediate cause of the causal course and the mediate cause of the final result." Thus then in vegetable life, with every vegetable individual the inference must also be drawn from the suitable co-operation of the individual organs, systems, and regions to a design-setting Author.—But the vital monad of the vegetable individual cannot be this design-setting Author. Firstly, it is not, on this account, because this positing of the end and disposition of the means extends not merely to this single individual, but over all individuals of the same species, and, in its fundamental features, over all individuals of the same genus, nay, of the same family. Secondly, on this account, because the vital monad of the individual plant is, in truth, the effectuating power, consequently the cause of the whole of those single functions, but a cause operating unconsciously, it can be no percipient subject, to say nothing of a cognitive and thinking one, consequently it can be no design-setting author. The

vital monad or vital power of the vegetable individual knows as little as the individual cells of the laws of light, of capillarity, of lower and higher chemical combinations. Not only no reflective knowledge, not even a quiescent knowledge (§ 53), can dwell within it, since the latter (according to § 50) absolutely presupposes the existence of a self-consciousness, of an ego cognizant of itself. Now, who then is the design-setting Author of vegetable life?—We here stand before an enigma, a problem, which points beyond nature.

Obs. 1.—For our premiss: that the organic process of life cannot be explained from the general physico-chemical laws, we have on our side a man, whom no one will claim to dispute that he has not been entirely without physical and chemical knowledge. The late Liebig writes (*Chemical Letters*, i. p. 366): “How is it now with the first cell? Amateurs answer you, that organic beings consist of carbon, hydrogen, nitrogen, and oxygen, along with sulphur, and that in the conflict of these substances, through the powers dwelling in them, it must have been at some time possible that the constituents of a cell, the cells themselves and the organism, should have formed themselves. The chemist may be able to produce in his laboratory a multitude of substances, which otherwise only the vegetable and the animal produce in their organism; he may be able to make sugar from wood” (a substance already organic), “to produce taurine from gall and urea; why should carbon, hydrogen, and the other elements not unite so much as once in an organic, material formation and be able to generate a germ? But what those amateurs name organic combinations are by no means such, but chemical, which contain the constituents of the organic; the taurine from gall and from the laboratory are not to be distinguished from one another, it is a combination formed by chemical, not by organic powers. It is clear as the sun that chemical powers also act in the living body. What chemistry asserted thirty years ago without being able to prove, it proves now. Under the influence of a non-chemical cause even chemical powers operate in the organism. Only in consequence of this controlling cause, and not of themselves, are the elements arranged and coalesce in urea, in taurine, as the intelligent will of the chemist constrains them to coalesce outside the body. And so he will succeed in producing quinine, caseine, and all combinations which possess no vital but only chemical qualities, whose smallest parts arrange themselves in crystals, whose form and shape a non-organic power determines. But never will

chemistry succeed in producing a cell, a muscular fibre, a nerve, in short, an organism endowed with vital qualities, consequently an actual organism. He who has ever seen carbonate of ammonia, carbonate of lime, phosphate of lime, an iron-ore, a mineral containing alkaline ore, will from the beginning hold it as quite impossible that from these substances an organic germ, capable of propagation and higher development, can ever originate through the effect of heat, of electricity, or of any other natural power." So Liebig.

Obs. 2.—The reviewer in the *Schwüerer'schen Litztg.* affirms: "It is useless trouble to point to design as realized anywhere in nature to one who is not disposed to believe in it, since every design needs for its realization a complete series of causes operating blindly, which present to thought the sufficient reason of the sequence.—To see design in the domain of experience is a matter of immediate belief, not of mediated knowledge." Granting, therefore, that a design lay at the basis of an action, "the design," *i.e.*, he who acts with design requires certain means, which consist in blindly operating causes; and thus I feel authorized logically to infer from the result only these means as the *causa proxima*, and by no means an activity of a subject arranging the same in conformity to an end as a *causa prima*. And this is to be valid as a philosopheme in "the domain of experience"—good. To the domain of experience belongs likewise the perception of human works and labours; thus the philosopheme will have to be valid of these also, if it is generally true. When now I see a shattered flower-pot lying on the street-pavement in front of a house, I will thus be entitled to infer with certainty from this empirical perception, only a falling-down as the *causa proxima*, and will by no means be allowed to infer an intention and a design; the flower-pot may be thrown down by the wind, by a cat, by a man from inadvertence, consequently without intention, just as easily as it may be thrown down by an angry and malevolent man for the design of vexing another. If, on the other hand, I pass by a workshop just standing idle in the hour of recess, and look in through the window and see there a metallic concave-mirror touched with polish; further, several cylinders ready and one to be found on the turning machine; further, different stands with instruments for measuring degrees, verniers, micrometer-screws, and so forth, —I shall, nevertheless, in spite of all respect to the logic of our rosin-scraper ninny, infer from these empirical perceptions not merely a fire, smalt, turning motion, iron instruments, as *causas proximæ* of the processes of polishing and turning, but the prevalence of a unified design: to produce a reflecting-telescope. And indeed for this reason, because there lies here before me

not merely a simple result with a simple cause, but a plurality of means, each of which operates unconsciously (the fire for the smelting, the smalt for the polishing, the turning-wheel for the turning, and so forth), and which nevertheless operate toward a unified end. Here I have empirically before me not merely a number of disparate sequences,—each with its corresponding cause,—but a unified result of many causes; and thence I must now infer not merely these single causes, but even a supreme cause carrying on and ordering these many causes to a unified end,—consequently operating with design,—otherwise I should compare myself with this simpleton. But now, if I go out a few steps beyond those factory-shops into the forest, to the works of nature, logic cannot, in the meantime, have become something else. The thesis which has been proved untrue in the domain of experience, in the workshops, cannot be true “in the domain of experience,” in nature.—If, however, the rosin-scraper would care to read once correctly with attention the work of Wigand (*Darw. und Naturforschung*), particularly vol. ii. p. 210, that would act like hellebore upon him, if his brain is not completely rosined.

§ 76 (β). *Animal Life.*

Before we pursue this problem farther, let us now still consider the life of the animal organism, in order also to verify in it our second thesis. With the animal organism the designed co-operation of the single systems is still more apparent than with the far simpler, the far less differentiated vegetable organism. In order not to examine all individual orders—(the lowest of which indeed possesses propagation in common with the vegetable, but two things in advance of the vegetable: the assimilation of foreign organic materials, *i.e.*, the digestion of food,¹ and the nerve-apparatus or at least the nerve-substance)—let us look but once at the mammalia, in which the differentiation of the organs has attained its highest perfection. What reciprocal action, exciting astonishment, is there between the different systems! The digestive system

¹ With the vegetable the organic substances (*e.g.*, manures, also insects with the so-called flesh-eating plants) serving it for food are decomposed without the plant, not digested in it.

(consisting of the mouth with the teeth and tongue, the cesophagus, the stomach, the great and small intestines, on co-operation of the liver and of the saponaceous substance prepared by it named gall) possesses the function of conveying to the body partly water and salt, partly foreign organic bodies (aliments), of decomposing the same chemically (in the stomach with assistance of the chyle and the gall), of absorbing the constituents of the same that are necessary to the organism, of evacuating the useless. The former are conveyed by the lymphatic ducts and the thoracic lacteal duct to the system of the blood-circulation, in order to repair the portions of the blood-mass transferred in another direction. (To wish to deny this design, and to assert: It is an undesigned, accidental sequence of an accidental cause, that the whole mass of blood receives reparation from the digestive system for the parts transferred from it—this every man would at least acknowledge as insanity!) The function of the blood, however, is this: To convey continually nutriment, *i.e.*, new organic substance¹ to all other organs. For this object the blood is comprised² in a constant circulation through bodies—the so-called great circulation—whilst it streams from the left ventricle of the heart through the arteries to all individual parts of the body, and is led back again through the veins into the right ventricle of the heart. In this way the one and the same homogeneous mass of blood conveys directly through bodies to every single organ of the body (by means of the so-called “inner-respiration,” *i.e.*, of an interchange of gases in the intercourse between blood and tissue) that nutriment which is directly necessary to the renewal (or with young individuals to the growth) of this definite organ. (*E.g.*, from the *truncus ascendus* the *internæ carotides* convey

¹ Not “matter” (*stoffe*). The blood is itself an organ, *i.e.*, a plurality of (inorganic) complexes of powers (§ 26 and 62) which are raised by a monad (§ 67) to a designed higher unity.

² To wish to explain this for an undesigned fortuitousness will likewise occur to no rational being.

nutriment to the brain, the *externæ carotides* to the tongue, the *axillares* to the muscles of the arms and fingers, etc. From the one and the same *cœliaca dextra* the stomach receives the substance of its renovation through the *gastrica dextra*, the gall-bladder through the *cystica gemella*, the liver through the *hepatica*, the duodenum through the *duodena*, and so forth.) Consequently the one and the same arterial blood is transformed in the liver to liver-substance, in the brain to brain-substance, in the muscles to flesh, in the *testiculis* to semen, and so forth. (See *Obs.* 2.) But now, whilst the blood has in such a manner surrendered a part of its constituents in a differentiated manner (which is not explained by mere mechanical motion) to the single organs, it is itself chemically altered, comes back as such through the veins into the right ventricle of the heart, and, in order to be able to undertake those functions again, needs renewal. Hence, as yet before it has arrived back in the heart, it is freed by the kidney-veins and kidneys of useless constituents, which, as urine, are removed from the body. But this negative purification does not yet suffice; the whole mass of blood would thus only continually decrease in quantity: to itself a new substance must be conveyed. For this purpose the blood is propelled from the right ventricle of the heart into the small circulation; here it receives from the thoracic lacteal duct carboniferous lymph conveyed to it from the digestive system, as it were a raw material, but which now must be transmuted into blood. For this object the blood now arrives in the lungs, where it is supplied through the process of inspiration with fresh oxygen, which combines with the carbon in carbonic acid, and as such is expired, with which process heat, according to a chemico-physical law, is at the same time evolved. Thence the blood streams back into the left ventricle of the heart in order to begin anew the great circulation.—Consequently we here find directly a reciprocal action between the system of digestion and that of the circulation of the blood. For whilst the former conveys to the blood fresh

nutriment in the chyle (lymph), the blood in its great circulation not only conveys new substance to all the organs of the digestive system (equally to all other organs), but passes over also (before its return into the right ventricle of the heart) into the liver, which secretes bile from it. That organ, however, which effectuates this double circulation of the blood, is the heart. This, with its two ventricles and two auricles, represents a double force-and-suction-pump in such a manner, that the contractions stand in place of the piston-thrust. The contraction (systole) of the left ventricle operates in man with a force which is capable of raising one pound and a half one metre high. With this force it propels the blood through the aorta into the remaining arteries. Through these elastic vessels the blood arrives in the capillary blood-vessels which ramify into all the organs of the body. The greater pressure existing in the elastic arteries causes the blood to flow continually out of the capillaries into the non-elastic veins, where the pressure is less, and thus to return into the heart. (In man the time of the great circulation lasts 25-30 seconds.) The systole of the right ventricle results with a less force, because for the small circulation no such force is necessary as for the great. But where now is the power which continually calls forth these powerful movements of both ventricles? The "bearer" of this power is the nervous system, partly the cerebro-spinal, partly the *nervus sympathicus*, and in the human body we see plainly how psychical and mental occurrences influence the circulation of the blood in a retarding or accelerating manner. Shame and anger, consequently mental excitations over something recognised as shameful or evil, operate relaxingly upon the wallings of the arteries, hence cause an accelerated flow of blood (blushing); terror and fear, consequently sense-perceptions which the mind is not able immediately to understand and intellectually to apprehend, operate in a contracting and retarding manner (growing pale). But not only those contractions of the heart together with the degree

of contractility of the arteries, but all involuntary functional movements of all the organs (to which especially belongs also the secretory activity of the different glands) are effectuated chiefly by the nerves, and indeed by the system of splanchnic nerves, whose cords issue from the spinal marrow and unite in knots and plexuses. In an analogous manner the voluntary movements of the muscles are called forth by the *nervi motores* of the cerebro-spinal system. And finally, the *nervi sensitivi* convey from the organs of sense to the brain those excitations originating from the external world, which we name perceptions—and the sensitive nerves of the individual corporeal-organs, the sensations of pleasure and pain. Now let us once more ask: What kind of a power is it, which effectuates the involuntary movements of the heart and the functional movements of the rest of the viscera, the half-involuntary movements of respiration, and the voluntary movements of the muscles? Indeed, for the circulation of the blood, there is perpetually operating a power which unceasingly propels round in a double circulation the whole mass of blood, on an average 35.5 lbs. (15,293 grammes) weight in an adult man, and in so doing nourishes and renews all the organs, among others the brain and the nerves themselves, and maintains the entire process of life in its regulated, designed order. That this is no mechanical power is evident. What motor power can possess the substance of the nerves as such, you may see a corpse in the substance of the nerves! Not to a nerve, but to a galvanic current streaming continually through it would you have to ascribe that power. In fact, it is then ascribed not even to the so-called “matter” of which the nerves consist, but to the nervous current flowing through the nerves, which is likewise at least analogous to, though not entirely homogeneous with a galvanic current. But now, whence comes this nervous current? To a galvanic current belongs, as is well known, two different things: firstly, a series of so-called “elements” (positive alternating with negative); and secondly, a something inducing the current.

(a) The former, the elements, we assume (not upon the ground of microscopico-anatomical observation, but upon the ground of an ingenious hypothesis of explanation advanced by Du Bois-Reymond) as given in the structure of the nerves. In the meantime the electric power existing in the elements and the fluid surrounding it would soon be consumed, if it received not continually chemical nutriment through a supply of new material. From the blood this nutriment is conveyed to the nerves by the great circulation. There now results the remarkable thing, that the nerve-apparatus receives, conveyed from the blood itself, that power by means of which it propels continually round in the body the 30 pounds (and yet, besides, sets in motion a multitude of other organs, consequently loads). The load carries with itself the power by which it is itself to be moved. This is not explicable according to physical laws. It would be a *perpetuum mobile*, where the load moves itself.—“And yet it is explicable,” we will answer. “The blood receives, indeed continually, new, latent (quiescent) power in the nutriment, which is conveyed to it as lymph from the digestive organs.” This answer admits of being heard. We see, in fact, that in the motor nerves and the muscles lassitude supervenes in consequence of deficient nutriment and deficient rest (which latter is necessary to the transmutation of the food into blood, and of the blood into the substance of the nerves and muscles). But indeed it is very strange, that with the nerves directing the vital functions (circulation of the blood, respiratory motion, secretions) such a lassitude does not in like manner supervene; we may be very “tired” (in the muscles) in the evening after a good walk on foot or corporeal labour: the beating of the heart, circulation of the blood, and respiratory motion, nevertheless, withal continue to go on their course unwearied, nay, with accelerated intensity. But now there still arises another difficulty. Of the quantity of food and drink which the animal organism receives, a part is again evacuated as urine and excrement; by the rest (the lymph), together with the inhaled oxygen, the blood is nourished, and from this the

whole of the organs receive their supply, so that upon the nutrition of the nerves only a small fragment of the received aliments is ultimately expended. And yet by these nerves (α) the whole mass of blood, 30 pounds weight, is continually set in motion, (β) the load of the received aliments themselves is set in motion in the *ductus abdominalis* and in the lymphatic ducts, (γ) the respiratory motion is called forth, (δ) the motions of all the remaining organs (liver, kidneys, and so forth) are called forth. That small fragment would therefore have to represent a power which moved a load which is incomparably much greater than itself. This is a *perpetuum mobile* of a still more inexplicable kind. We might now possibly refer to the fact, that a relatively small quantity of water, resolved into steam, is able to move not only itself, but the huge load of an entire railway-train from its place. Very true (in which, however, it is always to be observed that that quantity of water itself is neither in the condition to construct the moving apparatus, the steam-machine, nor to procure the means of heating); but now there nevertheless would have first to be proved, that the power dwells in a galvanic current—and, moreover, in one of so very extremely small velocity of propagation (32 meters per second)—of moving such a multitude of different loads, as they are continually being moved in the living animal organism.—(b) We have hitherto glanced only at the galvanic elements, in which the electric tension is, as it were, stored up as quiescent power. And, indeed, here the greatest difficulties have resulted for a mechanical explanation. But, secondly, it is now asked: What then is that which induces the current? Supposing that the quiescent power of the electric tension would admit of being explained quite satisfactorily from the nutritive substances supplied, there has indeed still to be explained, what then is that which “sets free” this power, introduces, regulates the + and — currents, and makes them cease again? With the motor nerves this is undisputedly the will, consequently a something incorporeal, and here then the

mechanical philosophy even confesses its inability to disclose a mechanical explanation. Thus, then, we will be authorized also to infer that that which induces or "sets free" the nerve-currents effectuating the beating of the heart as well as all the rest of the involuntary vital functions (*e.g.*, respiratory motion, secretions), is an incorporeal thing. And even here physiology comes to us with the confession of its inability towards a mechanical explanation. (Wundt, *Manual of the Physiology of Man*, § 162: "That the inner stimuli, issuing forth from the central organs and ganglia to the nerves, are according to their more specific nature still unknown occurrences.") The above-mentioned influence of intellectual and psychical occurrences upon the contractility of the walls of the arteries also proves *per analogiam* the correctness of our assertion. The most recent physiological researches, however, concerning the process of respiration, as well as those concerning the constant heat of the blood, furnish to us a still more striking proof from analogy. The respiratory movements of the muscles of the breast are called forth by the pneumogastric nerve, and upon the centre of this nerve (the so-called *noeud vital* in the *medulla oblongata*) there, moreover, operates in a demonstrable measure either (according to Rosenthal) as the sole or (according to Dohmen and Wundt) as a chief cause—the want of oxygen in the blood,¹ consequently no positive power, but a negative, a non-presence of something which should be present. (Through this necessity making itself perceptible in continued slowness the *noeud vital* is excited to rhythmically alternating movements.) Herewith the most recent physiology (indeed against its will, and yet in the most forcible manner) proves the existence of an incorporeal vital power, or vital monad, operating with design. A non-presence of something cannot possibly in a physical manner call forth a positive effect of power. There is also no gold, no tin in the blood; does the want of gold and of tin in the blood at any time also evoke excitations of a nerve? No, for

¹ Wundt, *Lehrb. der physiologie des Menschen*, 3rd ed. 1873, p. 391.

there is just no want; to the blood belongs no gold and tin; there claims to be none therein; it would be without design, nay, contrary to design. But oxygen claims to be therein; there is a "necessity" for oxygen present in the blood; oxygen therefore, well, at least is necessary—wherefore then?—in order that the blood may be able to fulfil its design! The thesis: "The want of oxygen excites the *noeud vital*," is consequently synonymous with the thesis: "The real non-presence of a substance which should be present for the attainment of the end, excites the *noeud vital*." And thus modern physiology itself has here furnished the most striking proof for teleology in the nature of the animal organism.—A second proof is the so-called "heat-economy" of the body. The body needs a definite heat of its own. The "sources of its formation of heat" are the chemical processes occurring in the body, chiefly that of respiration. The amount of the heat produced, moreover, depends partly on the chemical constitution of the means of subsistence, partly (in a manner not reducible to physical laws) on the day-time, finally, partly on the amount of the voluntary movements of the muscles. The "ways for the expenditure of heat" are of very various kind. Through the reciprocal working of both these series of causes significant fluctuations in the temperature would infallibly have to arise. But, as a matter of fact, the healthy body retains a constant heat of its own (that of the blood moves between 37° and 41° C.). By what means is this attained? "The regulation of heat for the maintenance of the constant temperature is effected especially by means of the skin and lungs. When either the supply of heat or the production of heat is increased, the pores of the skin dilate, the perspiratory glands begin to secrete, the respiratory movements are accelerated, and thus, by augmented radiation and exhalation on the surface of the body, by augmented exhalation within the lungs, etc., increase the loss of heat as long as until the former condition of equilibrium is restored" (Wundt, *Lehr. d. Physiol.* 153). A mechanical, physical cause, by which a

blood-temperature, ascending above 41° C. in the *noeud vital*, would evoke an acceleration of the respiratory movements and a dilation in the pores of the skin, is at present not established, will not even admit of being established; for were there such a cause, it would have to operate likewise in the fever-sick organism suffering from dry heat, and produce perspiration. It would not even be understood why, with a cooling that has attained to 41° – 40° C., the temperature of the blood should suddenly cease to produce those stimuli. There is here again a “necessity,” a something non-existing but which ought to exist, which shows itself active. Again, it is no simple agency of an efficient cause (no causality), but the agency of a final cause (a finality), which calls forth that officiating of the *noeud vital* and of the secretory nerves of the skin.—Finally, the question, Who is the design-setting Author? can here not be answered otherwise than with the vegetable. The individual cell in the *noeud vital* knows not what quantity of oxygen and what quantity of heat in the blood is requisite, and whether this quantity is reached; consequently, neither any single one of those cells, nor the whole number of the same, could fall into excitation over the want of that requisite quantity, much less, that it could be the authoress of that law of excitation regulating the respiratory function. In the eye the optic nerve and retina have a position absolutely protected behind a fourfold wall of membranes. To light, however, they are accessible; for on the front side of the eye these membranes are partly transparent, partly provided with apertures. Now, does any one of those cells, from which the cornea is formed, possibly know that transparency is necessary? Does one of the cells, from which the iris is formed, know that in the midst of the iris an aperture of 4 mm. in diameter is necessary, and that it (the cell) is not permitted to multiply itself through dissection towards the side of this aperture, but only towards the other side? In order that the eye may be able to perceive plainly at a distance as well as near, it is necessary, according to the laws of dioptrics, that the eyeball be

in the position to assume at will a more globular or a more elliptical form; this contraction of whatever sort is effected by peculiar muscles. Does any one of the cells, from which these muscles are formed, know anything of those laws and of that necessity? Consequently the individual cells cannot be the design-setting authors. But not even the vital monad. For the vital monad or soul even of the adult animal knows not the least of all those laws, according to which and for which the body is organized. The adult man, if he study physics, chemistry, anatomy, and physiology, may as an individual become acquainted with those laws; but (a) that design-setting even extends not merely to the single individual, but to the entire species, and consequently cannot be an act of the individual vital monad; and (b) already in the embryo, which has yet no individual knowledge of those laws and designs, the organs are formed suitably to an end, and in the peasant they perform their functions in conformity with the purposed result without his knowledge and volition. About seven thousand years did the human race exist without having a presentiment of the circulation of the blood (discovered first by the well-known Harvey); the circulation of the blood, however, already took place throughout those thousands of years! Neither the unconscious vital monad in the animal individual, nor the conscious and egoistical vital monad in the human individual, is the design-setting Author of the animal and human organism.

Obs. 1.—The teleological character of the organization in the vegetable and animal kingdoms lies so to hand, that not to perceive it belongs to a true idiocy. And, nevertheless, a certain school from a demoniacal desire has felt itself instigated to the obstinate denial of teleology in nature. The grandest feat in this connection has Hæckel performed (in his *Generellen Morphologie der Organismen*, sec. 2). The criticism of his positive statements belongs to Book II.; for the present we have only to consider both his chief objections against teleology, since their refutation belongs to the completion and securing of our positive proofs. (a) Hæckel (*l.c.* and *Schöpfungsgeschichte*,

p. 9 ff.) points to single organs, for the most part only "rudimentary," in different animals, which are said "to have no design," *e.g.*, the paps in man, the stunted remains of thigh-bones in serpents. The conclusions which he draws for the "theory of descent" from these so-called "rudimentary organs" does not as yet here concern us; we have here only to do with the question of teleology; in reference to this, however, he draws the magnificent conclusion: Because in individual organisms single organs are met with for which no practical design is to be proved, there is no adaptation in nature.—He who sees a bound book lying upon the table will perhaps give himself up to the foolish fancy that the book has been composed, printed, and bound for a certain purpose. Far mistaken! Let him only look at the book more exactly, he will thus find that upon the back of the same, under the golden title, there is yet a little golden stroke or flourish. The title on the back has a practical design (namely, that in the library one may immediately see what the book is, without first taking it out and opening it); on the other hand, the profane flourish—this has no practical design at all; it might be entirely wanting without any injury. Consequently, the entire book has no design! This is Häckelian logic. In order to discern whether a certain thing, an organism, a complex of things, or a kingdom of organisms, is teleological, *i.e.*, has reference to a final cause, is designed, we must in the first place ask in a more logical manner whether in its totality it subserves an end, and what? And then, in the second place, whether the correct means for the attainment of this end are existing. If all the requisite means are existing, the object is conditioned teleologically, *i.e.* designedly, or in conformity to the purposed result. Beside those means, then, ingredients may still be existing, which are not means to that end, are not immediately practical, but only belong to the substance of the thing (are only causes, not ends), or even such that are only decoration and embellishment (subserve æsthetic ends). Häckel, on the contrary, inquires in the first place for the means before he has in any way inquired for the design of the whole. To the idea of a unified design he does not at all raise himself, but asks with every little particular: "Is this a means to any single end whatever?" "Well, for what good is this?" Very like a stupid boy who enters the workshop of a turner, lifts up a piece of horn shaving that has fallen down, and asks: "For what good is this?" "Why do you need this?" Thence, that you cannot prove a practical design for a particular part, the want of design in the whole is not entitled to be inferred. This is so much the more absurd, as Häckel sees himself necessitated to confess that adaptation in very many phases does in

fact prevail within organic nature, for which even he (p. 200 f.) himself opportunely brings forward a few vouchers, *e.g.*, the fecundation of many flowers on co-operation of insects. Now, even from the taking place of only a single occurrence that has been arranged in conformity to a design, he would rationally be compelled to infer a design-setting author; but this necessity he seeks to escape. He boldly asserts (p. 221): "Arrangements in conformity to a design may be produced by causes operating without design;" and this he now seeks to prove (p. 246) by a second argument as follows: (*b*) "In the suitable arrangements, which are met with in a human state for the wellbeing of the whole and of the individual, no rational person will claim to see the suitable activity of a personal founder of this state." Certainly not! But so much the more certain is the co-operation of a plurality of personal, rational, design-setting beings. That several such beings, personal and, moreover, endowed with speech, may come to an understanding (in a constitutional state or republic) in regard to an object in common, is just as evident as it is nonsensical, inconceivable, and impossible that a plurality of impersonal beings, incapable of positing a design (as stones, plants, individual cells of vegetables, etc.), should set up a state. But Hekel draws this absurd inference directly from the foregoing lame comparison. Unconscious cells, none of which is able for itself to discern a law and posit an end, much less that they were in the position to come to a mutual understanding concerning an object in common, are nevertheless said to have constituted "a republican cell-state," in which all cells act according to a unified plan. Reduced to the form of a syllogism, therefore, Hekel's proof is as follows:—(1) A plurality of conscious beings endowed with design-setting reason and with speech, which therefore can come to an understanding on an object in common, are able to co-operate designedly for a unified whole (*e.g.* a state). 2. The cells in organisms are without consciousness, reason, and speech, consequently are incapacitated for coming to an understanding on an object in common. 3. Consequently, they can also co-operate designedly for a unified whole!—*a* is equal to *c*; *b* is unequal to *a*; therefore is $b=c$!! The members of a legislative assembly, conscious of their common object, about which they have thoroughly consulted, are not analogous and comparable to unconscious cells, but are only the soldiers and subaltern officers of an army, blindly obeying, unconscious and ignorant of the plan of the war. And when six hundred thousand of such soldiers, though no battalion knows the operations of the remaining battalions, nevertheless, according to a unified plan, suitably march, deploy,

charge, in short, operate, "no rational person" will omit to infer thence—he would then have to be subject to a Häckelian reason—the existence of a supreme command, or a commander-in-chief, who has fixed the plan of the war. But of course—syllogistic thinking (see § 34, *Obs.*) is in truth no more the fashion!— $a=c$, $b < a$, therefore $b=c$, this is the most modern logic. Cf. also § 88, *Obs.*

Obs. 2.—The chemical process, by means of which every organ appropriates from the blood the chemical elements and combinations specifically requisite for the renewal of its substance, has been explained as a "process of fermentation," and by this is presupposed, that in every organ a peculiar ferment is present, which directly initiates this specific kind of fermentation (Wundt, *Physiol.* § 22). Very good. Only you should consider, moreover, that outside living bodies, *e.g.*, in the brewing of beer, brandy-wine distillation, no kind of fermentation is evoked by inorganic complexes of powers, but with each the "ferment" consists of living organisms (fungi, excrement-fungi, etc.). Fermentation, therefore, is no occurrence explicable from the "general" physico-chemical laws of inorganic nature, but an occurrence effectuated always by a vital function. With those fermentations in the living organism there is still in addition the fact that during the fermentation the ferment renews itself. Now here, therefore, there must again first be presupposed a second "process of fermentation," in virtue of which the organ of the ferment renews its own substance. For this second process, however, there is not, in turn, existing a peculiar organ of ferment, which would initiate it; but here we directly touch with our nose the vital power of the efficacious law of becoming. This is valid also of digestion. The reproductive glands secrete the gastric juice (and therein the pepsin occurring nowhere else!), and at the same time they renew themselves.

§ 77. *Proof of the third Teleological Thesis.*

Our third thesis runs: In the totality of nature (α) the physico-chemical laws, further (β) the laws of becoming of the entire organic kingdoms, classes, genera, and species, and finally (γ) the laws of instinct of all the classes, genera, and species of the animal kingdom, are ordered for the design of the maintenance of organic genera and species.—That the laws of inorganic nature are so teleologically ordered, that

inorganic nature guarantees continually to the organic the condition of its existence and life, has already been shown, § 74; and if we there, as yet problematically, raised the question, whether a design of this kind has, as such, been posited, the proof for the administration of a design-setting author, and consequently for the *that* of designs in nature, has since then been furnished to us with apodictic certainty in § 75-76. Further, it has already there been proved that the three kingdoms of nature, the inorganic and both the organic, stand in a reciprocal action, through which the continuance of the latter is made possible. Thither belongs above all the circulation of charcoal, which is absorbed by the plant, conveyed to the animal in the vegetable nutriment, expired again by the animal, and absorbed again by the plant. Thither belongs, further, that as the vegetable kingdom in many of its species serves the animal for food, so the excrements and carcasses of animals, in turn, serve for the manuring of vegetables. Thither, that the phosphate of lime in the soil furnishes to the varieties of grain the requisites necessary to the formation of their seed-kernels, and that then those seed-kernels furnish to animals and men the phosphoric acid necessary to the formation of bones, and indeed in the form in which animals and men are able to assimilate it. For the animal organism is not able to appropriate phosphorus directly from the mineral kingdom; mineral phosphorus operates as a destructive poison. The vegetable world must first prepare it, as all combinations (salts only excepted) necessary to the support of the animal. Without the vegetable world the animal world could not exist.—But even in the single kingdoms of organic nature we find that teleological reciprocal action, which we are accustomed to designate as the economy of nature. Lower and smaller animals serve the larger for food; but now for this purpose the fertility of the propagation of the smaller and more imperfect animals is disproportionately greater; thereby it is effected that the lower and subordinate species do not become extinct, and again, that

they serve the larger animals as food, it is thereby provided in return that they themselves do not multiply excessively to the injury of the vegetable kingdom. Häckel (*Schöpfungsgesch.* p. 14) calls this "a fight of all against all," and cites this as a proof against a teleology in nature! Accordingly, he seems to regard it as a misfortune when a herring is devoured by a whale, or a beetle by a woodpecker. He still appears to excel the much-esteemed Mr. Elihu Burritt in peaceful sentimentality, since he even demands for the animal and vegetable kingdoms eternal peace, and regards it as something "contrary to design," or at least without design, when a cow eats grass. What he there says has a meaning only on the presupposition, that the preservation of every single vegetable and animal individual were the peculiar, true, and only conceivable design of nature! He charters nature with this "design." Therewith he is, of course, immediately entangled in the most ludicrous contradiction. For, if the cow is no longer permitted to eat grass, the stork never to eat a toad, cow and stork must indeed starve in order that toad and grass may continue preserved. But then, in order that all individuals may continue preserved, all individuals must starve! This, consequently, would be, according to Häckel's lachrymose meaning, a "designed order of nature!" No, not the preservation of individuals, but the preservation of genera and species is the design of the laws of nature, and this design is attained in the most excellent manner. This you see most clearly in such cases, where human arbitrariness interferes destructively in the ordered economy of nature. The destruction of the forests of a country draws after it scarcity of water and general sterility and devastation. Where you remove moles dor-beetles multiply, so that they annihilate vegetation and agriculture; where you remove birds of song, caterpillars multiply and destroy garden and fruit culture. The economy of nature is always so ordered, that the pernicious is removed by nature itself. At Spire there arose in 1854 a great alarm when a considerable forest of fir-trees, of perhaps

an area of one square mile, suddenly became brown. An army of millions of saw-flies (*lophyrus pini*) had made an incursion, had bored the leaves one by one, and laid their eggs therein. The little larvæ fed on the leaves; so these withered; the existence of the entire forest seemed seriously endangered, and, in fact, no human help could have saved it when the larvæ would have developed themselves. But suddenly the entire soil of the forest lay covered by millions and millions of dead lophyrus-larvæ. An army of ichneumon-flies had followed closely the army of lophyri; these ichneumonidans pierce the larvæ of other wasps and insects, lay their eggs in their bodies, and so kill them.—Thus, not only by the function of nutrition, but also by the function and the species of the propagation, the disturbed equipoise in nature is again restored.—With the majority of the phanerogamous plants, stamens and pistils stand close beside one another; where they stand separated (in the *monœcia*, *dicœcia*, *polygamia* of *Linncæus*), there it is, in return, provided by the most remarkable arrangements that the fecundation may, nevertheless, take place. *E.g.*, in the *parietaria erecta* the female blossoms stand higher up on the stalk than the male; but in these the four anthers are grown together with one another, and, at the time of the ripened pollenium, burst asunder with such force that the latter shoot upwards like a pistol towards the female blossom. With the *vallisneria spiralis*, a water-plant, the female flower has a long stalk, which in the beginning is twisted spirally, but with the development of the flower unrolls, so that this reaches the surface of the water and blooms in the air; simultaneously the male flower, adnate to the short stalk, emerges from the water, and, swimming beside the female, performs the function of fecundation. Then the latter, while its stalk coils itself up again, returns under the water, where its fruit ripens. But now, according to the interesting observations of Sprengel, there are, even among the hermaphrodite flowers, such whose pistils cannot be fecundated by the pollenium of their own

flower, but only by that of foreign flowers (of the same species, e.g., many species of trefoil). With these, as in many species with separated sexes,¹ there are insects which mediate the fecundation, while they, without their knowledge and will, bring the pollenium that has remained adhering to their wing-sheaths to the stigmas of the pistils. With the fig-tree, where the flowers are enclosed in the interior of a fleshy capsule, the fig, a gall-fly first bores into the capsules of the male fig, and then fecundates the female. With many species of plants provision is even made by a peculiar mechanism in order to necessitate the insect to the requisite delay in the female flower; thus with the *aristolochia clematitis*, whose female flower is enclosed by elastic hairs directed downwards, which first of all let gnats in, but not out again, but only after fecundation has resulted lose their elasticity. Those insects know absolutely nothing of the service which they perform for those plants; nevertheless, they execute it in virtue of instinct, of this teleologically ordered law governing their wills, and thus we are convinced that this law, not only within the single animal species, aims at its preservation, but also at the preservation of entire nature in the maintenance of its kingdoms, orders, classes, genera, and species.

Obs. 1.—As in the vegetable kingdom the fecundation is arranged conformably to the design, so also is the seed-sowing. Let me here be reminded to refer only briefly to the *impatiens noli*, whose seed-capsule in the stadium of ripeness (when the coiled head suddenly springs up) hurls its seeds a great way off (beyond the thicket of its own foilage to more open places); so to the *rhizophora mangle*, which casts its fruits in the marshy ground, in which alone they can strike root.

Obs. 2.—Against the thesis, that the maintenance, not of individuals, but of genera and species, is the design of nature, you might refer with some show to the fact, that nevertheless very many entire genera and species have perished. As far as by this are meant species, which were extirpated in historic

¹ With different monœcians and dicecians, the wind, as is well known, performs the service of carrying the pollen to the pistils.

time by human arbitrariness (especially by the chase), we do not permit the validity of the objection; for that human arbitrariness may interfere destructively with the economy of nature, we have indeed from the beginning not only conceded but asserted. (To these species exterminated by human arbitrariness belong, according to the discoveries made by Boucher de Perthes and Rigollot at Abbeville, and by Lartet in the celebrated cave of Aurignac, also the species *ursus spelæus*, *felis spelæa*, *hyæna spelæa*, *elephas primigenius*.) On the contrary, circumstances are otherwise with the palæontological species of plants and animals, with whose petrified remains geognosy makes us acquainted. "Here, at least, single species have wholly perished," you will oppose to us. But we reply: This is too little affirmed! Not single species have wholly perished, but entire complexes of nature; and these are of two very different kinds. Those phenomena are not of the kind, as if nature might indeed have had the design to preserve all the genera and species, only might not have been able to attain this design with them all, but conversely, even thus, as if nature might have had the very definite object of permitting those complexes of genera and species to perish together, in order to attain a higher vegetable and animal world. That actual "cataclysms," actual interruptions of organic life, have taken place repeatedly in the geognostic periods by sudden destruction of the entire existing vegetable and animal worlds, we will prove against Lyell and his followers in Book II. sec. 3, § 168. The world of organisms of the coal period, those of the trias period, those of the lias-oolite-Jurassic period, those of the chalk period, those of the eocene, of the miocene, of the pliocene period, were not destined for continuance, as indeed appears therein that the highest stage of nature, man, had not yet been attained in them. Each of these worlds of organisms that have appeared after one another ever aimed at the following one, and was therefore established for a temporary permanence. In each of the same during this permanence the continued preservation of species was just as designedly aimed at as this is the case in our present period. That even this may together in its totality be annihilated by a catastrophe, a "cataclysm" (of cosmic nature)—this possibility will not permit of being denied by natural-historical premisses (and there will be shown to us later, from higher than natural-historical premisses, even the certainty, that the present natural world will likewise one day perish for the design, in order to make room for a yet more perfect cosmic system). But as long as it exists our thesis also continues to stand in its correctness: That it is teleologically and suitably ordered for the maintenance of organic genera and

species, just as designedly as each earlier period for the time of its existence was ordered teleologically for the maintenance of its genera and species. The succession of the geognostic periods, far from speaking against teleology in nature, consequently only furnishes a new proof for the same.

§ 78. *Nature and Man.*

And, nevertheless, we have not yet discerned in these three teleological theses the ultimate design of the order of nature. Beside inorganic beings and both the organic kingdoms of plants and animals, man is still of course existing. According to his bodily organization he belongs also to nature; his body is organized like that of the mammalia; but his vital monad is, as we have been convinced (cf. § 67), of essentially different constitution than that of the animal. The vital monad of the animal is accustomed to be designated as a psychical monad or "soul" (*anima*). Even the vital monad of man has relations or functions, in which it operates analogously to the soul of the animal. (a) As with the animal so also with man, the vital monad operates as a law of becoming or a *vis plastica* in the structure of the body and its organs, and as a law of the vital process in the functions of these organs (e.g., circulation of the blood, digestion), and, indeed, here not as cognizant, namely, not as one cognizant¹ of these laws and functions of the body (which is an object and part of the world of nature), but in an unconscious manner determined by a law of natural necessity. (b) As with the animal, so also with man, the vital monad acts as a subject, namely, as a perceiving subject in relation to the organs of sense. That neither with the animal nor with man has this vital monad its "seat" in any one particular particle of the brain, but that from the brain by means of the nerves as its organs

¹ That the vital monad of man is one unconditionally cognizant of itself, that, on the contrary, it is by no means in the beginning cognizant of, but only learning to know the world of objects, and that in this knowledge it is limited by legitimate organs, we have already emphasized in the conclusion of § 67.

it is immanently present in the entire body, § 67, *Obs.* 3, has already shown. The vital monad as such is incorporeal and therefore non-spatial. As a law of becoming (as a vital power operating involuntarily) it reproduces itself in every single elementary cell-monad (whence the phenomena mentioned in § 67, *Obs.* 1, are explained); it does not operate sedentarily in the brain through mediation of the nervous cords, but it operates also in the nerves and their finest ramifications; it thus secretes from the same mass of blood by means of the same nerve-substance, here gall, there muscular tissue, there brain-substance, etc. The body is not a thing alone, in which somewhere, at one point, the soul might sit, but it is insouled and insouled throughout. It, however, is true (§ 53) that in the great brain there is present a corporeal organ for the psychical being-conscious of the world of objects—and indeed in the great brain of man a corporeal organ for the reflective consciousness of the world by the egoistical vital monad, in itself conscious, an organ, by means of which and in which the human vital monad, in virtue of the knowledge of self or the consciousness of self peculiar to it as such, exercises a higher function of the cognition of objects, namely, an activity collecting and unifying single sense-perceptions, and consequently (§ 55) acquires an intellectual contents. And now this leads us over to the essential quality by which the human vital monad is distinguished from the animal. The animal vital monad is, as we know, likewise a subject, but not an ego cognizant of itself, and therefore, as a monad which is identically itself, it possesses only the faculty of forming representations, of firmly retaining a representation, of recognising (remembering) an object, but not, as a monad cognizant of itself in its self-equality, of forming concepts. The soul of the animal is identically itself as long as it exists at all; but it is not cognizant of itself, and therefore does not know itself as identically itself, and because it does not apprehend itself as an ego in its distinction from the totality of its representations (§ 72), so it has not the intel-

lectual intuition of time¹ (§ 30), and just as little is it able to form concepts and to raise the multiplicity of its representations to the conceptualized unity of cognized laws (§ 70), to posit ends (§ 71), and just as little does it possess memory (§ 71). Otherwise man. The same vital monad, which in his body is active as a law of becoming and a vital power, and in his organs of sense as a perceiving subject (and indeed as such is an incorporeal and non-spatial power), is at the same time an entity cognizant of itself, an ego, and because it knows itself in identity with itself, it is capacitated in disjunction and synthesis to grasp multiplicity in the unity of the concept; it does not at any time gain this capacity gradually; it first becomes the ego, not by degrees, but has, as we have been convinced, § 28-40, in its self-equality cognizant of itself, in its self-consciousness, the categories as given with its own existence, immanent in it, belonging in themselves to its most peculiar essence, and brings the same along with itself to that labour of the reflective cognition of the external world for which the great brain is the corporeal organ subserving it, but at the same time limiting and restricting its activity. The human vital monad is therefore at the same time both — (a) soul, which constructs its own body by embryonic assimilation of material in the maternal body, animates it continually, and, by means of the corporeal organs of sense, stands in a percipient relation to itself, and (b) intellect, which by means of reflective thought, in virtue of the categories essentially immanent in the ego, on a subserving and limiting co-operation of the bodily organs of reflection, takes cognizance of the laws lying at bottom of the phenomena perceived by means of the senses, and thus gives—not to the brain—but to itself (the ego) an intellectual contents. Now, whilst the will of the animal, without

¹ But certainly the animal, just as man, and from the same cause (§ 29), has a consciousness of space. This consciousness has, it is true, its cause in the condition of being bound to space; on the contrary, the intellectual intuition of time has its cause in the self continuing to know itself also as identical.

knowing and understanding it, is subject in its instinct, not with freedom, but with inevitable necessity, to that kingdom of suitably ordered laws, the human mind stands so related to those laws as taking cognizance of the same, thinking in concepts, to which accordingly belongs the freedom to direct its will either according to these laws, or to its own injury to trespass against them. And just there instinct departs from man (§ 72, *Obs.* 2).

(c) THE RELATION BETWEEN THE EGO AND THE LAWS OF THE
OBJECTIVE WORLD.

§ 79. *Subjective and Objective Rationality.*

Now since man not merely sensibly perceives phenomena, but also in thought takes cognizance of the laws lying at bottom of them, there is given between the ego of man and the laws of nature a reciprocal relation of a higher kind than is the reciprocal relation between inorganic nature and the organic kingdoms considered in § 77. Since the ego of man, cognizant of itself and absolutely certain of its own self, takes cognizance of the laws of nature as the genuine existing things in nature, and learns to understand them in their adaptation, it perceives in them the promulgations of a being related or analogous to itself, the ego, of an intellectual or intelligent being. For every law as such—because: a unity which is valid for a totality of cases—is something intellectual (cf. § 34), and every teleological law presupposes a design-setting, consequently an intelligent author (§ 76, *Obs.* 1). Thus now there exists a harmony of essence between the cognitive ego and nature discerned as a system of teleological laws. Both are “rational.” To the cognitive ego belongs—as a capacity—rationality in the subjective sense, or, in short, subjective rationality (or yet more briefly, reason), *i.e.* the ability to “discern” (to take cognizance of) that system of laws. To nature, however, as the complex of those teleo-

logical laws belongs—as a quality—rationality in the objective sense, or, in short, objective rationality, *i.e.*, the state (of intelligibility) corresponding to the categories of conceptuality, of causality, of adaptation.

§ 80. *The Ultimate Design of Nature: Man.*

But herewith an entirely new relation of design discloses itself in nature. We found, § 77, as a design at which the laws of nature aim, the preservation of the kingdoms, orders, classes, genera, and species existing in nature itself. Now we see that this design is not yet the ultimate, the highest. All this nature as such, the entire world of the sensible phenomena of intellectual laws, exists and is maintained, not for the sake of itself, but for man, for intellectual beings. We saw, it is true, already, § 60 ff., that the ego is absolutely certain of itself, and that we can only say of the external world, of nature, it is a phenomenon perceived by the ego, and as such is the ego's contents of perception and of thought. We saw, § 63 ff., that in nature actual, real existence belongs, not to the fleeting phenomenon which our senses perceive, but to the system of laws, which, as intellectual, related to or homogeneous with our intellect, are operating teleologically. Finally, we saw, § 68 ff., that this entire nature is constructed of different kinds of powers: (*a*) Complexes of powers, which (according to § 63) dissolve variously and combine differently, *i.e.*, in the so-called—be they molecules and atoms, be they masses of inorganic bodies—(*β*) vegetable monads of different order (§ 67); (*γ*) animal monads of different order (§ 67), to which, however, belong also the monads of lower and middle order in the human body; (*δ*) the human monads of higher order, each of which is an ego cognizant of itself, taking cognizance of and receiving into itself the entire world and the entire system of laws as intellectual contents. Now as inorganic nature is ordered for the sake of the organic, in order to guarantee to it the conditions of life, so again inor-

ganic and organic nature are ordered for the sake of intellect. For if in its true existence can be predicated of laws alone, the real existence of laws cannot indeed exist in nature for the sake of the fleeting phenomenon, but only for the sake of themselves, and the phenomenon only for the sake of the laws, *i.e.*, for the sake of intellect. And, again, even so is nature (*i.e.*, the body constructed and animated by the vital monad) present in the human individual as a microcosmus for the sake of the intellect, *i.e.*, for the sake of the ego, of the cognitive vital monad. Thus all nature has man in view as that being which is to attain to the cognition of the systematization of teleological laws present in nature—or in whom the existing state of nature, *viz.*, the system of those laws is, as Leibnitz expressed it, “to mirror itself.” The ultimate design of entire nature is, therefore, that man may discern the system of suitable laws, and in this system just this ultimate design—*i.e.*, himself as the ultimate design of nature. The basis of all his cognition of nature is his self-consciousness or knowledge of self, which is (§ 60) identical with his existence. The goal of his cognition of nature is self-knowledge, the knowledge of himself as the ultimate design and goal of nature.

§ 81. *In Humanity the Individual is a self-end.*

The vast universe I may receive into myself; I may make it the intellectual contents of myself. In order that I may do this, there are given me for this purpose the corporeal organs of sense-perception and of the reflective being-conscious. And as the maintenance of all genera and species of plants and animals (according to § 77) is the goal (though not yet the ultimate and highest) pursued and attained by the order of nature and its laws, so then above all is also the preservation of man, of the human species. But it already follows from what has been said in § 80 that even this preservation of man as a species cannot be the ultimate and highest goal of nature. We know (§ 55) that every human

individual, in conformity with its peculiar talent, and in conformity with the use which it, as a free-willing being, makes of this talent, acquires its peculiar intellectual contents, and by so doing becomes a personality. No one personality is like another; every man takes his place, quite peculiar to him, in human society and history (be it important, be it unimportant), which no one before him has occupied and no one after him will occupy. And therefore the individual man stands by himself not only in a relation to nature's system of laws, but also in a relation to other men as likewise self-conscious and free-willing beings, namely, in the reciprocal action of learning and of teaching, of being determined and of determining, of receptivity and of productivity, whereby a constant further intellectual development of knowledge (which, as a common product of the human race, is named "science"), as of the actions of the will depending on knowledge, is called forth. The distinction and antithesis of nature and history, which in its most abstract features has already, § 44, been demonstrated to us, now only receives its essential contents. Humanity has a history; the vegetable and animal kingdoms have none. (See *Obs.* 1 to this paragraph.) Every species of animal, since the human race was¹ able to observe the same, has continued even the same; wolf, lion, fox were already in the times of Homer, nay, already in the times of David and Samson, the same animals with the same instinctive qualities, as now. The description of elephants, hippopotamus, etc., by Aristotle agrees exactly with the present constitution of these animals. And if the natural history of the present day judge of single fabulous stories which the Stagyrice has likewise embodied in those descriptions, that they are incorrect and false,—does not this, then, testify clearly that it also presupposes as certain that those animals were at that time

¹ The constant transformations asserted by Darwin and his repeaters exist hitherto only in the phantasy, which transposes them into times previously unthought of. The exact observation of the actually given nature has nowhere yet been able to prove those transformations of one species (or even class and order) into another. See Book II. sec. 3.

constituted exactly as now? The law of nature, which as instinct dominates the will of the animal with natural necessity, continues the same in all centuries; on the contrary, our human cognition of the laws of the lower, as of our own nature, is enhanced and increased, and herewith the arrangements made by human will and union of wills and the institutions of human society (custom and clothing, skill in art, social and mercantile relations, institutes of law) change, improve, and become complicated. How has the physiognomy of Germany, without regard to politics, become a wholly different one, since 7th December 1835, when I, at that time a student, made with others the inaugural journey of the first German railway! Hence now there further follows immediately that in the vegetable and animal kingdoms the individual exists for the sake of the species, because, in truth, only the characters (continuing constantly the same) of the species are the object which is to be preserved; that, on the contrary, in the human race the species exists just as much for the sake of the individual personality as this for the sake of the species, just because in every individual personality the design of humanity is reached anew in a manner entirely peculiar, namely, that design, that the system of laws, *i.e.*, objective rationality, may be discerned by the subjective reason of the ego, and that the will of the same, in conformity with the acquired measure of knowledge, may posit ends and choose means.

Obs. 1.—When we say: Nature has no history, we mean (analogously as § 77, *Obs. 2*) nature, as it is existing in the present period of the world or of the earth, and do not deny that in the geognostic periods of the development of our globe a kind of “history of the earth” is submitted to us. Only we must, besides, strictly hold that when such a “history of the earth” is spoken of, the word “history” is taken in another and wider sense than we have done above. It is then only: The enumeration of one event after another, not: The result of knowledge developing itself and of the positing of ends by self-conscious and free-willing beings. That “happening” in the

"history of the earth" stands to nature not in conceptual antithesis, but is itself only a happening of nature.

Obs. 2.—When we say, in the human race the individual is a self-end, we then say: the individual itself is an end, *i.e.*, it has an independent end in opposition to the species, and is not merely means for the sake of the species (as the end).—It is evident that the expression "self-end" has here a totally different sense than when pantheists (*e.g.*, D. Fr. Strauss, *Old and New Faith*, p. 70) speak of a self-end of the cosmic process. When those say, the cosmic process is a self-end, they then say: The means is its own end, it has no end beside this: to be the means for its own existence as means, *i.e.*, it has no end. With this meaning of the word "self-end"—like an "endless screw"—the concept of end is only posited in order to be again immediately denied.

§ 82. *The Onset-Point of Pantheism.*

Schelling, in the period of his philosophy of nature, and Hegel have stood still at this point of the development of knowledge, at which we have here arrived, and have from here developed their systems. A positive principle of both systems was the knowledge that there is an objective rationality of the laws of the universe and a subjective rationality of the cognitive ego, and that the rational ego discerns the laws of the world as corresponding to its own reason, that consequently the objective rationality is identical in contents with the subjective. To this was added, as a negative principle, the (according to § 55 and § 58 f. fundamentally erroneous) exchanging of self-consciousness with the reflective consciousness of the external world, and herewith the converse presupposition, that the consciousness of self is a limit, and consequently a relativity and incompatible with the absolute. (The details hereon, see in § 89.) Thus both philosophers came to this, to apprehend the abstract concept of rationality as the "absolute," *i.e.* as the really and primarily existing principle of all phenomenal existence and of all cognition and thought. Concerning the changing forms of this idea with Schelling, cf. below, § 184 f. Hegel assumed

that the absolute rationality, which is neither subject nor object, exists in nature as rationality "existing in itself," becomes in the cognitive individual or subject "existing for itself," *i.e.*, becomes objective to itself, and finally in the philosophy of the philosopher, rationality may discern itself as identical with itself, as "existing in and for itself." As a primarily existing and fundamental principle of the universe, an intelligence is therefore assumed, which is neither *intelligens* nor *intellectum*, neither an ego cognizant of itself nor conscious of an object, which is nothing at all concrete, possessing contents, but the most abstract of all abstractions conceivable. In Book II. sec. 5, we will have to examine more closely that negative principle of pantheism (already existent with Spinoza), as well as also the individual phases and systems of pantheistic philosophy; for the present our problem is only this: To prove, whether in the knowledge hitherto acquired by us there is given a positive principle, from which the pantheistic conclusion might be, or indeed would have to be deduced in a logically correct manner; in other words thus: Whether pantheism is the direct road towards which the premisses of knowledge, hitherto acquired, lead us, or not rather a blind alley, which turns aside from the right way.

Obs.—That Hegel was a pantheist and not a theist, F. Hoffmann (in J. Bergmann's *Philos. Monatsheften*, vol. iii. 2nd Quarter, 1869, and in Andreä's and Zöckler's *Liter. Anzeiger*, 1873, p. 253 ff.) has conclusively proved against Rosenkranz.

§ 83. *Pantheism a Paralogism.*

If we discern in the universe a system of teleological laws as the really existing things, and consequently if this objective rationality of those laws is one existing for us, *i.e.*, is one such, which may be discerned, and is intended to be discerned, by the self-conscious, thinking ego of man, there is always designated by the expression: "objective rationality" only a

state or quality of those laws, but not their being. In their being those laws are operating teleologically. That system of teleologically operating laws we designate as a "rational" one, because the thinking ego of man discerns the same as a system congruent or corresponding to our subjective, logical categories of inherence, causality, conditionality, and adaptation. We therefore attribute to it the predicate of rationality, by which, however, nothing at all is as yet affirmed about the being of that complex of laws itself, but only something about the harmony existing between it and our subjective categories of thought. The predicate of objective rationality, which we attribute to that complex of laws, is consequently an absolutely abstract concept, a pure concept of quality. Now it is irrational to treat this abstract concept of quality as an ontological concept, or a concept of reality. Further, when we ascribe to the ego subjective rationality, this is no concept of quality, but a concept of capacity or power, consequently a concept of reality or being. The ego really possesses the power of forming concepts, and herein the power of the conceptual cognition of that system of teleologically operating laws; and this system of teleologically operating laws in itself again culminates in the ultimate design: that it, even inclusive of this its ultimate design, may be discerned by the rational ego of man, by means of the "subjective rationality" or "reason," as a really existing capacity or power of the subject (of the human ego). We have therefore in the objective world not merely that abstract quality of "objective rationality," *i.e.*, cognoscibility, but an existing system of teleologically operating laws,¹ in which system the self-conscious, cognitive ego is also posited even as the highest end; and we have in the self-conscious ego the existing faculty of "subjective rationality" or reason. It is irrational to identify this existing power of subjective reason with that abstract quality of "objective rationality," and to treat both as equivalent, nay, as synonymous and the same, whilst now from both you again

¹ Cf. the *Obs.* to § 36.

derive the yet more abstract and the most abstract of all concepts, the concept of "rationality," or the concept of the "concept" (which is to be neither containing nor contained), and ascribes to this most abstract of all non-concepts not only an independent being, but even the absolute, primitive being, while you assert that absolute "rationality" — that concept, which the philosophizing subject has abstracted by means of a fallacy from two by no means correlated elements (a quality, itself indeed already abstract, and a really existing power)! is the absolute, the primary existing author of all being and thought. This means, when examined closely, nothing else than that from a quality of efficient laws (which these have presumptively in common with the self-conscious subject) these laws themselves are first called forth; the abstract quality of "rationality" was that which has ejected from itself the concrete complex of those teleologically operating laws,—consequently existing powers,—the complexes of powers of the corporeal objects as well as the egoistical vital monads. This is not a hair more rational than if some one would say, Let their first be the quality of pleasantness, and this may have allowed to go forth from itself the different pleasant things; or, let there first be the quality of visibility, and this may have ejected from itself the different visible things and the different seeing eyes (see *Obs.* 1). Quality can never be the efficient cause of the existing thing in which it inheres (see *Obs.* 2).

Obs. 1.—Plato, as is well known, says something similar. The *ιδέα*, e.g., of smoothness exists first, and all concrete smooth things (*φαινόμενα*) "*ἀρέγουσιν*" to attain the idea of smoothness. That Plato, among the examples of *ιδέαις* which he adduces, has strangely mixed merely abstract concepts of quality with concepts of powers, was an error; he, however, was far from thinking of making any one such *ιδέα* the primary-existing principle of the world. His *ιδέαις* are in God, are produced by God as a self-conscious Mind; the Platonic *ιδέαις* are nothing else than the creative thoughts of God. (Cf. § 9.)

Obs. 2.—Those, who could not have understood anything of all that has been said since § 22, might here, perhaps, wish to

make the objection to us: We should at least have explained, even in § 62, the qualities of objects as efficient powers. This we have not done. We have not said: The quality, which we have abstracted from perceived impressions of sense, has effectuated or called forth the body, in which it adheres (or: all the bodies in which it adheres). But we have said directly the converse: The "quality," which we ascribe to a body (*e.g.*, smooth, red), has as quality no objective existence at all; *e.g.*, "red" is a subjective sensation, and from a multitude of such like sensations we abstract for ourselves the "quality." As an effectuating cause, however, there lies at bottom of the sensation an objective excitation of sense, and of this again the existence of an efficient power. That the sapphire possesses the quality of blue-appearance is caused by a power which effectuates an optical excitation, propagating itself through transparent media, which evokes in us the subjective sensation of blue, and only from a multitude of such sensations do we abstract the quality "blue." And that single (optical) power has not so much as called into existence the sapphire; for the sapphire is a complex of such concrete powers, in which complex indeed the power of attraction (specific gravity), of resistance (hardness) is present. The state of being in and beside one another of these different powers cannot be occasioned by a single one among these powers, much less by one of those abstract qualities, perhaps that of being blue, which the sapphire has in common with all blue bodies. Hence it plainly contradicts the law of causality and of logic to regard a quality of a thing as the effectuating cause, in general, an abstract as an efficient cause. If you designate the cause in principle of all existence, and of existence thus, with the expression of the "absolute," the absolute can and must be apprehended not as the most abstract, but only as the most concrete, comprehending and uniting organically in itself the totality of all efficient powers. With distinguished clearness K. Ph. Fisher has already developed this in his book, not yet sufficiently known and appreciated for its merit: *Die Idee der Gottheit*, p. 46 ff.

§ 84. Question concerning the Design-setting Author.

We have to do, not with the abstract quality of rationality, but with a system of laws operating with design, and we attribute the quality of rationality to these laws just because they operate with design. If we now once more take a survey of the entire series of those lower and higher designs,

the operating laws of inorganic nature are ordered for the sake of the organic, consequently have their ultimate, common design in this (§ 74). Organic nature, however, has its design in man (§ 80), and in the microcosmus of man himself; the corporeal or natural side of man, again, has its design in the intellectual side; the body exists for the sake of the intellectual soul, in order that man may cognitively perceive all those laws, and consequently also the supreme law: that just this, his perceiving, is the ultimate and highest design of nature and of his own nature—in order, therefore, that man may cognize himself and his own essence. And so then, man perceives not merely the laws of nature, but also the laws of his own mind, *i.e.*, of his egohood, of the laws of thought, of the categories.—Now, with all that which becomes an object of his cognition, he is unconditionally necessitated, in virtue of the category of causality, to inquire for the cause, consequently he must inquire for the cause which lies at bottom of that system of teleological (and indeed aiming designedly at the self-knowledge of self-conscious beings) laws. And in virtue of the category of design he knows that the cause of anything designedly ordered can¹ only be a design-setting author. But herewith we are led beyond and above the stage of the knowledge of self to the knowledge of God.

C. THE KNOWLEDGE OF GOD.

§ 85. *The Design-setting Author of the World is not the Individual Ego of Man.*

As an intellectual, thinking ego cognizant of itself, I have the system of the laws of nature and of thought for the

¹ Cf. Wigand, ii. p. 275 f.: "Nevertheless, as our understanding can in a book understand only on the presupposition of the idea, that a pre-existing thought has been put in the book, so therefore we can also find in nature an object intelligible to the human faculty of cognition only because, and in as far as, the same is the work of a thinking mind."

contents of my mind, for the intellectual contents of myself, and I am, moreover, in absolute self-certainty, certain of my ego as of that which cognizes. But now, although the system of those laws is the contents of myself, I have, nevertheless, only attained to this contents in temporal course, whilst I, in cognition, received into myself that system of laws. I have it as the intellectual contents of myself, because I have made it so, because I have received it cognitively into myself. To cognize the system of the laws of nature and of thought, is a receptive, no productive activity of my ego. The system of those laws is met with by my ego, and by the ego of every other man, as one absolutely given to it. If, therefore, anything is clear and certain, it is the negative proposition: that not the ego of any one man, nor the united egos of all men together, are the authors of the objective, rational laws of nature and of thought. The laws of nature operated indeed much earlier than they were cognized (let one think of Harvey and the circulation of the blood), in truth, before man existed (cf. § 77, *Obs.* 2), and even so every man operates from childhood with those laws of thought, or categories, given in his constitution, long before he studies logic and learns to reflect on these laws and discriminate them. (If you would say to a simple peasant boy: "No fish has feathers; but this hen has feathers, therefore it is a fish," the peasant boy would laugh right out, and recognise this talk as senseless.)

§ 86. *Necessitated Cognition and Arbitrary Volition.*

We have not produced that system of those laws. We rather distinguish in ourselves two different activities: (a) the receptive activity of perception, of thinking, and of cognition arising from the co-operation of both; and (b) the productive activity of volition. The former depends only formally, not in its contents, on the latter. Whether we wish to perceive (to open the eyes, to listen to a noise, to touch an object, to

smell and lick it), and whether we wish to meditate upon an object, this is a matter of our self-determination; on the other hand, what we (in the department of knowledge chosen by us), in perception and thought, take cognizance of depends not upon our wills; the objects of cognition are met with by us; they are the world of phenomena, *i.e.*, of phenomenal laws; they are nature and history (phenomena of natural laws, and phenomena of intellectual laws, and of egoistical, personal powers and spontaneous effects of power). In the cognition of the world, therefore, we are necessitated to that which concerns the contents of the same.—Now, in opposition to this receptive activity, our volition appears as an arbitrary thing; to our volition there is given no contents, as there is to our perception and cognition, but our volition produces its contents itself; it posits a contents of thought, to which no objective actuality as yet corresponds, but which is only to be realized through the nexus of end and means. Whilst, therefore, perception arises according to those laws in conformity to which our organs of sense are constructed, and our thinking takes place according to logical categories, so our will as such is necessitated by no law (not even by a law of morality, with which it is indeed able to place itself in opposition), but is complete, free self-determination. In this its illimitable freedom and lawlessness, however, the will is absolutely still mere arbitrariness. In cognition the cognized laws are teleological as well as the thinking is rational, *i.e.*, taking place under the law of the categories. The will, however, is not as such “rational,” *i.e.*, declaring for that which has been discerned by the reason as objectively designed; just as little is it, as such, irrational, *i.e.*, declaring against that which has been discerned as designed, but it may be rational or even irrational. It lies in the concept and nature of volition, that there “belongs to man a free will,” whether he, on his part also, (*a*) wishes—or not—to posit as a subjective end that which in the objective system of phenomenal laws (in nature and history) is posited objectively as an (higher or lower) end,

and whether he (β) wishes—or not—to choose for an end, posited subjectively by him, a means which operates congruently with the objective laws of nature and history.

§ 87. *The Impotence of the Will.*

The will is, of course, powerless only in the degree as it places itself in contradiction with the designs and laws of the objective world. The child wishes the moon brought down from the sky ; this child is still “irrational ;” it has not yet discerned the law of distance and perspective ; therefore it desires what is contrary to design and impracticable. A vain man wishes to play the chief part in politics ; he has not known the magnitude and difficulty of the task which he pretends to do and the measure of his personal capacities, and he makes a fiasco. From this proposition : that the will can really interlock actively in the natural and historical causal nexus of the external world only in proportion as it lets itself be determined in the positing of ends and choice of its means by the known laws of nature and of mind, there result two consequences : (1) a practical one, namely, the maxim of prudence : that the will must not allow itself to be led by blind, natural impulses, but by the recognised laws of nature and mind ; therein lies : (a) that in the individual man the intellect must rule over the natural side of his being or sensibility ; (b) that man, in his relation to nature, must make use of the recognised laws of nature as means to the attainment of his ends (that he, *e.g.*, must not claim to warm himself with ice or cool himself with fire) ; and (c) that man, in his relation to other men, *i.e.*, to the course of history, must in his personal design-setting put himself in order with the general designs of human society, in order to be able to accomplish his own ends. These trivial truths, from which one here and there has attempted to deduce a “philosophic” morality, are not only non-ethical, are indeed not even so much as maxims of wisdom, but are in fact only maxims of prudence ; for even

the third includes in itself not even a subduing of egotism, but only a limiting of the same, which happens even repeatedly for egotistical objects. It is the system of eudæmonism which is deduced in such a manner from the above proposition. But (2) there results from that proposition also a very important theoretical consequence. If the will of man can interlock actively in the objective nexus of things only in proportion as it directs itself in conformity with the recognised laws of nature and of mind, and now if those laws are cognized only gradually by individual men, and on common co-operation of the entire human race, there thus follows: that neither the will of a single man nor the united will of all men can be the author of those laws. The system of those laws, therefore, is one just as absolutely given to our wills as (according to § 85) to our cognition. Neither man nor humanity is the design-setting author of that system of laws.

Obs.—There follows, moreover, incidentally from our proposition still a third inference. The “stupid will” of Herren Schopenhauer and v. Hartmann, to which the world is to owe its realization, has — only an individual existence! In the objective world we never see a stupid will to be realized; only the system of those laws, and what is in conformity with it, is realized.

§ 88. *The design-setting Author can only be a self-conscious One.*

But now man is (§ 84) necessitated unconditionally by the logical law of the category of causality to ask: Who then is the Author of those laws, if it (according to § 85–87) is not man and humanity? The system of laws operating in nature and humanity is one operating with design (§ 73–78); its author therefore can only be a design-setting one (§ 76, *Obs.*); only a self-conscious ego, however, can be design-setting. For in the concept of design-setting itself is indeed included that the effect of the efficient cause has been as one consciously willed, consequently thought, earlier than the efficient cause, and that the latter has been employed as the means in con-

sequence of the willed effect. In design - setting, therefore, the effect, namely, the effect thought and willed, is the *prius* of the cause. In design - setting, therefore, the last effect resulting is the first of all. There follows in succession :—

- (a) The effect as thought and willed, *i.e.*, the “end.”
- (b) The cause of this effect as the (thought and then really applied) “means.”
- (c) The effect of this cause, as actually realized, *i.e.*, “the attainment of the end.”

Consequently there precedes the state of being realized of the effect, the state of being realized of the cause, to this the state of being thought of the cause in its relation to the effect (*i.e.*, the knowledge or cognition of the adaptation of the means) ; to this again there precedes, as first of all, the state of being thought and willed of the effect. Now, however, the effect cannot be thought and willed without a thinking and volitional subject. Where no *cogitans* is, there is no *cogitatum*. Consequently, only a subject conscious of the nexus of causality, a thinking-volitional subject, can be design-setting. And since a knowledge of the adaptation of the means is presupposed, *i.e.*, a knowledge of that law, in virtue of which the thought and willed effect will be attained by such and such a cause (means), so this presupposes such a subject which is able to think a law (*i.e.*, the universally valid, a unity comprehending in itself a plurality), consequently (according to § 57) a self-conscious subject. Only a self-conscious subject can be the author of that system of laws whose phenomenon is the world, just because its laws are operating with design. But equally so, because the highest of the ends appearing in this system of laws (§ 80) is this, that the self-conscious ego of man, in virtue of its self-consciousness, may come to the knowledge of those laws, and in so doing to self-knowledge. An author, who were not himself a self-conscious one, could not posit self-consciousness and self-cognition as points of departure and of aim of his designs, *i.e.*, of his cognizant volitions.

Obs.—That a system of suitable effects presupposes a design-setting author, we have formerly (§ 76, *Obs.*) maintained and proved in the establishing of the adaptation of nature against Hæckel's school-boyish sophism. That only a self-conscious author can be a design-setting one, we have to defend against a no less school-boyish paralogism of D. Fr. Strauss. In his work, *Alter und neuer Glaube*, § 38, p. 117, he writes: "We shall not be permitted to conclude, because we men can accomplish a work, whose parts conspire to the bringing on of a certain effect, only by means of the conscious representation of an end and, equally so, of the conscious selection of means, so also the works of nature, thus conditioned, can only have been accomplished just in such a manner, consequently by an intelligent Creator. This does not follow; for nature teaches us that the presupposition, only conscious intelligence can work suitably, is an erroneous one" (*circulus vitiosus*!). Kant has already mentioned the mechanical instinct of many animals. . . . As instinct is, namely, an action (of animals!) "which chooses as it would happen" (like any design-setting subject whatever) "in conformity with a conscious end, and yet happens without one such" (without an end conscious to the animal, but not without an end!), "so the same is the case with the productions of nature." The brackets already point to the places where this chain of reasoning is perforated. Whether a designed happening can take place without a conscious, more exactly, without a self-conscious, design-setting author? this is the position standing in question, affirmed by Strauss, denied by others, concerning whose correctness it is first to be decided. And indeed it stands specially in question, whether the suitable co-operations taking place in nature (among others with the instinctive actions of animals, but likewise also with the vital functions of all organs and single cells, as in the laws of the inorganic complexes of powers) as a matter of fact and in an acknowledged measure, is conceivable without an author conscious of the end. Strauss asserts: yes. As proof for this assertion, he brings, in the first place, nothing further than just this assertion, that "nature teaches us that the presupposition," etc. This therefore means: that in nature suitable co-operation occurs without a conscious design-setting author is proved thereby, that in nature suitable co-operation occurs without a conscious design-setting author!! He himself would like to feel the scrupulous nicety of this *idem per idem*; hence he adds still a second proof, which is, however, nothing better. He refers to the instinct of animals. He says, as the animal may act in conformity to an end it "may choose so;" it chooses this, however, not merely so, but brooding is actually in con-

formity to the end, that the embryo may develop itself in the egg (and such like, cf. § 72). But now instinctive action may happen without such a design, he asseverates; this, however, is not true; it happens without the animal knowing anything of the design, but not without a design, consequently not even without a known and conscious design. The animal acts in conformity to a design unconscious to it, just as every organic cell (let us read yet once more § 75-76!) developes itself in conformity to a design unconscious to it. Nevertheless, from this there follows in a rational manner only this, that not the animal, and not the cell, is the author of such functioning which sets those designs, but never, that no design-setting author of those suitable functions exists at all. The latter would indeed be the plainest *contradictio in adjecto*. What then does "suitable" signify? Well, at least, that means which is adapted to an end, which consequently causes an effect which is intended to be caused. In the concept "suitable," therefore, the concept of design is also already posited, and, equally so, in the concept of design the concept of design-setting. For where no design is set there is no design, and where no design-setting is, there no design is set. A *passivum* without a corresponding *activum* is nonsense. It lies indeed precisely in the nature of design that the non-existing becomes the cause of a becoming and of an existence. The absolutely-not-existing cannot become the cause of an existence, but only the not-actually-existing, which is a something existing in the conception of the design-setter, consequently a thought-existence. The young lion does not as yet exist, when its mother, the lioness, comes into the world. But, nevertheless, those organs, which are necessary to the future conception, gestation, bringing forth, and suckling of the young, are already formed in the embryonal body of the lioness. Seeing, *i.e.*, the perception of the effects of light, does not as yet take place in the embryonal life of the child, and yet even the organ for future seeing is formed by the finest organization of hundreds of thousands of microscopically little cells. From this, that these cells have no consciousness of the end to be reached, there follows (just as from the unconsciousness of the instinct of animals) only the negative: that these cells are not the design-setting author. But from this, that a something not actually existing becomes really active, there follows incontrovertibly the positive: that this something not actually existing is not an absolutely-not-existing thing, but a thought-existence, and consequently is existing in the conception of a thinking and volitional subject. If you would escape this inference you would have to let fall the concept, "design," as such; you would have to say: the eye is not formed for the design

of seeing, the ear not formed for the design of hearing, the stomach not formed for the design of digestion. But why then begin with that *noeud vital* (§ 76), which is excited to the calling forth of respiratory movements through the "need" of oxygen, *i.e.*, by oxygen which is not present, but which is intended to be present.

§ 89. *Can the absolute-primary existing Being be self-conscious and personal?*

The author of the system of those laws, which are the real existing things in the world and whose phenomenon is the world, must, because design-setting, be a self-conscious ego. But now pantheism objects: The author of the universe, as the primarily existing, the absolute being, can be no self-conscious ego. The entire chorus of pantheists, from their father Spinoza down till D. Fr. Strauss (*Alter und neuer Glaube*, § 36, p. 108), Berth, Auerbach, Biedermann, Alex. Schweizer, and so forth, asserts: The concept of the ego is that of an individual being, or in other words: self-knowledge is a relativity, self-consciousness is a "limit," which conflicts with the concept of the absolute.—This entire assertion is nothing but pure vapour and delusion. Whence then do you know that self-consciousness is a limit and the ego as such necessarily an individual being?—My ego, my human ego, is of course an individual ego or individual being, and equally so is the ego of every other man. But why then? By what means then? How far then? Not thereby and not in as far as it is a self-conscious ego, but absolutely only and in as far as my human consciousness, as a perceiving consciousness of the external world, is excommunicated and bound by means of its body to a single place in space (§ 29), and, as a reflective consciousness, is bound to a bodily organ and is affected by that "narrowness of consciousness" (§ 53), in virtue of which it is ever able to be conscious simultaneously only of few perceptions and thoughts, and consequently does not behold the great whole of the system of laws, but learns to cognize and know it in gradual, temporal succession. That

it enters into existence as an ego, as yet void of contents, at first only cognizant of itself, and must fill itself with intellectual contents in spatial-sentient-conditioned perception and temporal-gradual cognition: thereby the human ego is an individual ego and an individual being, and therefore it has a limit of its existence, of its thought and consciousness. In the egohood as such, in the knowing-itself-identical-with-itself as such, the cause of this limit and of this individual-existence does not lie. Exactly on the contrary! That we, nevertheless, in spite of that limit of individuality, not merely receive into ourselves (as the animals) isolated sense-perceptions and produce within ourselves mere representations, but possess the faculty of forming concepts, of drawing conclusions, of discerning laws, nay, of receiving cognitively into ourselves the entire system of the laws of nature and of mind, and of surveying, penetrating, and spanning (§ 56) the great harmony of the kingdoms of inorganic and organic nature and of mind and of history as of the intellectual contents of ourselves—that consequently we bear within us not individualities, but are able to grasp the totality of the universe, in the structure of its lower, higher, and highest designs, in an organic unity, namely, in the unity of the state of being related of all individual kingdoms and laws¹—which we, individually, are able to do in virtue of this, that we possess the faculty of disjunction and conception (synthesis), the logical categories

¹ Not this organic, concrete universality of cognition does M. Du Bois-Reymond suspend before our view as the highest goal of human science, but (*Ueber die Grenzen des Naturerkennens*, p. 4 f., after the precedence of Laplace) the construction of a mathematical equation (of a “world-formula”), by means of which you might discover by computation all past and future movements of all atoms, and consequently also, *e.g.*, “who was the iron masker.” In the place of the system of designed laws there here arises “the motion of atoms” proceeding according to an immutable formula. And this then leads to the childish thought, in the mistaking of a distinction between nature and history, of even wishing to reckon actions, that have proceeded from human will and arbitrariness, and words, as movements of atoms. How absurd—considered even directly from the standpoint of the natural philosopher—is that postulate of D. B. R.’s has Wigand proved (ii. 433–449) in the most thorough manner!

of causality, conditionality, and finality, as an immanent determinateness of being and entelechy of our vital monad, *i.e.*, thereby, that this vital monad is not merely (as the animal) one continuously existing exactly the same, but one cognizant of itself in its absolute identity with itself—a self-conscious monad. This is, in truth, the essence of the ego, to distinguish itself, that which is cognizant of and known to itself as existing, from the universe of cognized objects—and consequently again, the universe of objects as a unified totality from itself. This is the essence of the ego: to be the unity, which is able to contain in itself a totality of intellectual contents and to distinguish it from itself. The state of being an ego, or self-consciousness, is therefore no limit, but conversely: the power of highest freedom from limitation is posited with the egohood. That with us men this freedom from limitation is given only as far as can be done and in accordance with talent, has not its cause in the essence of the egohood or of self-consciousness as such, but therein, that every human ego is one beginning in time, bound bodily in space, has first to become acquainted with and to cognize the world as one posited by a non-human ego, given absolutely to it. With the essence and concept of the ego as such it is quite compatible, that it become acquainted with that universe of laws as posited by itself, not in gradual succession, but may behold it in an eternal present.

Obs.—Stutz (*Die Naturwissenschaft, der frei Gott und das Wunder*, Zürich 1872, p. 73) very well says: "Nevertheless, no one in earnest will claim to assert this, that the step from the unconsciousness, unthinking (because destitute of intellect) free will, as it meets us in the animal, to the will of man, which rests on the capacity of thought and self-consciousness, is a retrogression! As certainly as that these qualities are an essential progress and the exhibition of a more perfect being, so certainly shall we not now again go backwards, and shall be able to extend those phenomena into the mind of God, without which He is not even mind and cannot be the Creator of the human mind."

§ 90. *God, the self-conscious Author of the World.*

It is therefore *à priori* no contradiction to conceive a self-conscious ego, which has to cognize the totality, the universe, of laws and their phenomena not first in succession, but has the same together, consequently in a present not subject to time, for its contents—not now of its reflecting cognition, but of its beholding. Such an absolute ego,—or (since the indefinite article would again negative its absoluteness, better) the absolute ego, which has for its eternal, intellectual contents, which is not subject to time, absolute being, *i.e.*, the universe of teleologically operating laws, but cannot then, as is evident, have for the contents of its beholding this universe as one given to it, found by it; otherwise it would, just as truly as we, have first to become acquainted with this contents; it can rather only have it as one posited by itself, *i.e.*, as willed by itself in beholding or looked thither into existence. The absolute ego must be the Author of the universe of the teleologically operating laws and herewith of their phenomena. Thus, therefore, the idea of the absolute ego leads us entirely to the same result, to which the question, § 88, concerning the cause of the universe of teleologically operating laws has led us.—If now the universe of teleologically operating laws is the eternal intellectual contents of the ego, there results immediately from the concept of design that a volition forms this contents, no blind volition, however, but a cognizant one. This absolute Ego we name: God. And as man, in virtue of this, that he possesses an (gradually acquired and limited) intellectual contents of his ego, is an “individual personality” (§ 55), so God, who possesses in eternal beholding the absolute intellectual contents of His ego, and in it the highest determinateness of being as known, is designated with perfect right as the absolute personality.

Obs. 1.—With the knowledge that God’s thinking is no reflection over an object given to Him, yet foreign to Him, no cognitive thought, but a beholding and cognizant thinking—is,

however, always a thinking, namely, a conceptual thinking, because embracing all diversity in unity—the answer at the same time is already given to the cavilling question: Do you then wish as if to represent that the Absolute, as we, chooses here and there between different means for its ends? Answer: No, this It does not. That man chooses between different means, therein we have found (§ 45) with justice a proof for this, that the will of man is no mere reflex movement and no ganglionic function, but an intellectually spontaneous decision in reference to something conceptually discerned. That now with man this, the conceptually discerned, is in many cases (but not absolutely in all) a something ambiguous, that, in other words, a plurality of possibilities and ways present themselves, between which thereof is to be weighed and decided lies the cause in the relativity of human relations and in the limitation and the temporal gradual course of human cognition, never, however, in the nature and concept of design-setting as such. For indeed with man cases sufficiently occur, where, instead of a wavering choice between several means, an immediate unhesitating seizure of the correct means follows close upon the volition of the end; this is always the case there, where no gradual cognition of the relations and modes of operation is longer requisite, but an acquired knowledge, consequently a beholding of the same is present. He who sees smoke and sparks ascend from the roof-frame of a house cries “fire” without thinking for a moment; he knows that this call is the surest and only certain means to procure help. Since now God’s thinking is no gradual cognition, but a cognizant beholding, so no wavering choice between a plurality of, perhaps, possible means can take place with His design-setting, but only a volition of the correct means entering immediately with the volition of the end.

Obs. 2.—Natural science itself leads with necessity to the assumption of a volitional, regulative power, standing above natural laws. Dr. Friedr. Pfaff has proved this in a strictly scientific manner (*Zeitfragen des christl. Volkslebens*, vol. i. Heft 3: “Ueber die Entstehung der Welt und die Naturgesetz”). He has proved from natural science the facts—(1) that the visible world cannot be existing from eternity, but must have had a beginning; (2) that—you may represent space as infinite or as limited—the matter distributed uniformly present in space must have had in the beginning the form of a gas-mixture; (3) that the now actual unequal distribution of this matter would, according to the laws of nature known to us, only permit of being explained either by a pressure from without upon a limited quantity of gas, or by the attraction of a

body, or by the chemical attraction of single atoms, or by decrease of temperature; (4) that, however, according to the laws of nature known to us, none of these four cases can have taken place with that gas-mixture distributed uniformly in space, and that, moreover, for the elliptical motion of the heavenly bodies, which presupposes a centrifugal force along with the attractive, not even the shadow of an explanation can be found from the laws of nature. From the laws of nature the origination (more approximately, the differentiation) of the world is not explained.

§ 91. *Real Objectivity and Object-Existence.*

With the knowledge of this eternal-personal God, *i.e.*, of this Ego eternally filled with eternal intellectual contents, is the solution of all mysteries and amphibolies of the human consciousness immediately given. Above all, the abstract idealism of Fichte is now reduced to its correct measure and its true significance. It is quite correct that the ego of man, as that which, in the first place and unconditionally, is cognizant of itself, which is absolutely certain of itself, is able only to affirm of the objective world, it is one perceived and cognized by it, is, consequently, the contents of the human ego. This world, however, is one given to the human ego for the contents of its cognition; it is not merely an appearance, no mere non-ego, which were posited by the individual ego; Fichte in his second period has, at least approximately, (though not without aberration into the pantheistic ideas refuted already, § 89), discerned that an absolute ego must be assumed, which has "posited," *i.e.*, in volition produced the universe (cf. § 183).—Consequently we ascribe to the world, to the universe of objects, with perfect justice, an existence. No existence, however, in the sense of an independent existence, and just as little in the sense of a material existence. (α) Not in the sense of an independent existence; for the world is only as posited by God, as willed by God; it is not the authoress of itself. (β) Not a material existence, for there is no material substance or matter at all (§ 26 and

62); what we are accustomed to name "substance" or "matter," consists in truth of complexes of powers, and these powers are nothing else than operating laws, and these laws operating, and indeed operating with design, are nothing else than the thoughts of God, namely, the willed thoughts of God. And this is even the true sense of the expression: omnipresence of God; not this, that God might be extended in the world of space (even the human ego is, according to § 67, *Obs.* 3, at least, a non-spatial one), but that the world depends on the will of God, and reposes and exists in the will of God, that its existence is nothing other than an existence of the efficient thoughts of God. The omnipresence of God is a cognizant, volitional omnipresence, therefore, an almighty and omniscient omnipresence.—Thus, then, the world of perceivable objects has an independent existence over against man, but not over against God. In opposition to man it has an independent (independent of man) existence, because it is posited by God. This is object-existence or objectivity in the real sense, with which expression it is affirmed that the world of objects is not one represented only by the human ego, but one given by God, and ordered with design, one existing for us. "Existence" we ascribe to that which exists not merely in our subjective representation, which is not a product of our subjective phantasy, but a product of the divine will, and indeed so far as it is this. "Essence" we ascribe to this existing thing produced by the will of God, just as far as it is a phenomenon of teleological laws posited by God. The concept of real objectivity, therefore, includes in itself both the concepts of existence and of essence. (The former is a subjective concept, which denotes real objectivity not as such, but only in its relation to us, the human subjects.)—From this objectivity in the real sense we have to distinguish the formal and negative concept of mere object-existence, *i.e.*, of impersonality. Natural beings as such, inclusive even of the animal, inclusive even of the human body as such, stand as mere objects in contrast to God and man as self-conscious

subjects, namely, to God, as objects of His cognizant volition and of His beholding, to us men, as objects of our perception and cognition. (Even animals are, in truth, only representing, not self-conscious and cognitive subjects, consequently only objects for cognition.)

§ 92. *Subject-Existence and two kinds of Subjectivity.*

Man on his natural side—consequently in as far as the human vital monad as “soul” constructs itself a body and animates the same—participates generally in the real objectivity of nature; on that side there belongs to him, just as completely as to all other natural beings, (α) real existence, because willed and posited by God, and (β) a designedly ordered existence, consequently an essence. Thus (α) all other men ever stand over against a perceiving human ego, not as a product of the phantasy, represented or imagined or dreamed, but as actually existing objectively, because subsisting in and through the will of God; and (β) in every individual man, in as far as he is already a natural being, the designed laws, *i.e.*, the creative thoughts of God, come to realization, and indeed to their highest point of culmination, since in truth man is, considered even from his natural side, the summit and crown of nature.—But man is still more than a mere natural being. The human vital monad is a self-conscious, cognitive ego, filling itself with intellectual contents, consequently a personal being. The ego-existence, or personal existence, we may designate as subject-existence in the higher sense. Subject-existence in this sense: the self-conscious egoity or personality man has in common with God, as personal beings men stand together with God on one side, and mere objects (inclusive of merely representing subjects, see § 91, to which, as such, “subject-existence in the higher” does not belong) on the other. This subject-existence in the higher sense forms, therefore, the contradictory antithesis to mere-object-existence. From the concept of this subject-

existence the formal concept of subjectivity, in the good sense, is then immediately derived, as when, *e.g.*, the question is of the "subjective cognition of an objective truth, of a law, and such like." However, as far as self-conscious man finds the universe of the phenomenal laws of nature and of mind with their real objectivity, as a given world, in which he has only to learn, which he has only gradually to appropriate intellectually, and as far as it is now an affair of his self-determination to undertake this activity of cognition (*cf.* above, § 86), consequently, as far as he has to attain gradually to the knowledge of the unknown: in so far he is exposed to the possibility of error, and may undertake operations of thought (as, *e.g.*, that of Häckel, § 76, *Obs.*, and of D. Fr. Strauss, § 88, *Obs.*), which err against the laws of thought, and may attain to representations and opinions, to which objective actuality (in its existence and essence) does not correspond, to which, therefore, no real objectivity belongs, which are rather only subjective opinions. And this is the formal and negative concept of subjectivity in the bad sense, the concept of mere-subjectivity, which forms the contradictory antithesis to real objectivity. It is, however, highly important to keep strictly apart both these pairs of antitheses; for just upon the confounding of the concept of subject-existence (together with formal subjectivity in the good sense) with the concept of the only-subjective (or subjectivity in the bad sense) depends essentially that (already refuted, § 89) *πᾶτον ψεύδος* of pantheism. Because one cannot attribute to God subjectivity in the bad sense, he thinks subject-existence and subjectivity in the good sense (the subjective beholding of the absolute intellectual contents) must be denied Him. Let us briefly group together these pairs of antitheses:—

I. Real objectivity belongs to all that which is effectuated by God's cognizant volition according to teleological laws, is, consequently, existing over against us and in itself essential.—What only exists in the erroneous opinion or representation of

fallible men, therefore, has no existence, no essence, no real objectivity, which is only-subjective or subjective in the bad sense.

II. Subject-existence in the higher sense, *i.e.*, self-consciousness and personality, belongs to every ego cognizant of itself, as well to the absolute ego of God as to the vital monads of men. And the beholding as the cognitive thought of an ego is a beholding or cognition subjective in the good sense. All that, to which egohood, consequently subject-existence in the higher sense, and therefore the capacity of beholding and cognitive thinking, subjective in the good sense, does not belong, is only-object.

§ 93. *The eternal intellectual Contents of God.*

In God, therefore, the absolute, real objectivity—in as far as God is (α) for us absolutely existing and also omnipresent in the realization of His creative will, and (β) is constituting in Himself the absolute essence in the universe of teleological laws—is absolutely united and identified with absolute subject-existence. God is the absolute ego, *i.e.* (α) viz. an ego, cognizant of itself and self-conscious, and (β) an ego, which has not found the universe of laws and their phenomena, as one given to it by another, but has produced, posited, effectuated the same from out itself. This positing, or as we now wish to name it by a biblico-theological expression, this creating is, of which, however, we have sufficiently convinced ourselves, a design-setting activity of God. Now, in all design-setting (§ 88) the thought exists before the operating will (though not in chronological succession, yet so that it lies at the basis of the will). He who wills in a design-setting manner, wills not in the form of a dim, unconscious impulse, in order afterwards first to become clear to himself concerning the contents of his volition, but is, in the first place, conscious of the contents of his thoughts, and upon the basis of this knowledge results the entelechy of the volition. If, now, all lower designs tend to an ultimate, a highest design (§ 80), if, therefore, it is this highest design which God wills to attain by the creation of the universe, *i.e.*, by the realization

of all lower designs, the thought of this highest design, therefore, is in God the *prius* (not chronologically, but logically and ontologically) to which the efficient will is related as an executor, consequently as means. The will for a creation of the universe presupposes therefore in God a contents of thought, which, even without regard to that will in God, must be, and must just constitute, the peculiar contents of God *qua* God. The universe of teleological laws appearing in the world—or “the world”—because it is one effectuated by God in designed volition, cannot be the intellectual contents of God, cannot constitute the essence of God, but the will: to posit, effectuate, create, call into existence a world which is not God, a system of personal and impersonal vital monads and inorganic complexes of powers—this will has for its presupposition this, that, without regard to it, God may have in Himself an uncreated, eternal contents of mind and essence.

§ 94. *Half-Pantheism.*

The misapprehension of this truth leads to the by-path of half-pantheism, which has appeared in manifold phases (even in Schelling's last system of the philosophy of religion), but is always distinguished thereby, that it regards the creation of the universe not as a free act of God's will, but as a necessary process of life in God; whence the inference immediately follows, that the universe coincides with the essence of God (the intellectual contents of God), that the universe, though not the phenomenal God (as in pantheism), is at least the phenomenal, intellectual contents of God. But then, the process of the development of the universe infallibly becomes the process of its contents, consequently of its essence, finally, therefore, at least, of God developing Himself. And thus that half-pantheism leads back to pantheism proper as to its consequence. This half-pantheism appears in a phantastic form in the emanatistic systems of the Gnostics. In an

intellectual-dialectical form we find it again in the system of Schleiermacher (*Glaubenslehre*, § 54): "In the concept of Divine omnipotence is contained this, that the collective coherence of nature" (the antithesis of nature and history Schleiermacher persistently ignores!) "is grounded in the divine, eternal causativeness, as also this, that the divine causativeness is completely exhibited in the totality of finite existence, consequently, too, all becomes active and happens, for which there is a causativeness in God." Here there enters in place of the concept of design-setting that of mere causativeness or causality, in place of omnipotence the mere working of the universe.—Still more decidedly does R. Rothe (*Ethics*, § 30) explain the creation of the world as an absolutely necessary act of God, and says (*idem*, § 33 and 39): "In the creature God gives Himself His existence; creation is the world-becoming of God,"—assertions with which half-panteism again disembogues directly into the consequent pantheism of Hegel.—In the most profound manner this half-panteism is refuted by Franz v. Baader, in the most sagacious by Franz Hoffmann.

Obs.—A God, who is necessitated to eject from himself the substance of his own intellectual contents as a universe,—such a God is still the causality of the universe, but no longer design-setting. And while such a God is necessitated by his own "nature," as one standing above his will, to posit a world, in order by this first to perfect himself, or to come to himself, he is not even the first, the most primitive causality, but only a middle-member between a *βύθος* or "dark ground," by which his nature has been thus organized for him, and the universe.—With perfect justice Christian theology distinguishes the creative will of God, as a *voluntas* (or *decretum*), from that which belongs to the *οὐσία* or *substantia* of God.

§ 95. *Scholastic Proofs for the Existence of God.*

The truth of this development of knowledge lies also at the foundation of the scholastic "proofs for the existence of God," the teleological (or "physico-theological"), the cosmological, and the ontological, only that that truth is given in

an inadequate form in these proofs. The scholastic form of the same is, namely, the following:—(a) Teleological proof: “Everything in the world exists for a design. Every lower design presupposes a higher and more general one; all separate designs meet in an ultimate, unified design. There must therefore exist not merely such beings, to whose authorship single subordinate designs permit of being traced back, but the inference must be drawn to the existence of a Being who has with design ordered the whole.” (b) Cosmological proof: “Everything which has an existence has a cause of its existence, which itself again must have an existence. Again, every cause has such an existing cause. Now, since this cannot thus continue to go on *in infinitum*, so there must be an ultimate cause effectuating everything.” (c) Ontological proof (in the Proslogium of Anselm of Canterbury): “Every one must concede: we have aliquid in intellectu, quo nil majus cogitari potest. Major premiss: We believe deum aliquid esse, quo nil majus cogitari potest. Minor premiss: Certo autem id, quo nil majus cogitari potest, non potest esse in intellectu solo; for were it in intellectu solo, we could truly conceive it yet ‘greater,’ namely, could still mentally supply the attribute of *existentia*. Conclusion: Ergo id, quod nil majus cogitari potest, et in intellectu et in re existit.”—In these “proofs for the existence” of God the expression “existence” has already been claimed as a perverted one—with justice, inasmuch as existence belongs only to objects existing in space and time, and to God, at the most as far as the world subsists in Him, and consequently as far as He has an omnipresent, *i.e.*, spaceless, efficient existence in the world (cf. § 93), which must, by all means, be distinguished from His existence in Himself, according to § 94–95, with injustice, as far as this expression is burdensome only to the translators, whilst the schoolmen have made use of the indisputable Latin expression *existentia*.—The formal inadequacy of those proofs does not lie in that expression, but therein, that the concept of God is apprehended at the same time abso-

lutely, and, nevertheless, in the same moment again relatively, —absolutely, as far as the question is of a design-setting author of the universe, of a cause of the universe, of a “perfect” being,—relatively, in as far as this being is still only superlatively apprehended as the highest, the ultimate, the most perfect, and consequently is lowered in a line with other relative beings. Thus, in the Teleological proof there is nothing said of the question, that the whole universal system of lower and higher designs was referred to the one design-setting author, but a God, as author, is required only for the ultimate, the highest design; for lower designs creatures suffice. Analogously, in the Cosmological proof with regard to causes. God first enters entirely in the rear, at the end of the world, as the last member of the chain along with the creatures as the other members. Similarly in the Ontological proof. There lies already in the concept of the absolute in and for itself, that real objectivity (existence independent of us creatures, aseity, and essence in inseparable unity with “subject-existence in the higher sense,” *i.e.*, self-consciousness) belongs to it. And thus then the truth lying veiled in the ontological proof is this: that with the absolute the question concerning a proof of its existence cannot be and is by no means permitted to be asked. But now this is the inadequacy of the form, that instead of the reality-concepts of real objectivity and of real subject-existence the operation is carried on with the (according to § 91) subjective and formal concept of *existentia* in its antithesis to *essentia*. In those proofs the individual, human ego posits itself as first, ascribes to the things or objects existing without it unconditional existence (because they are undoubtedly existent for the human ego, according to § 91), and just as from lower designs to their design-setting authors, so now, and in the same series, it draws an inference from the ultimate design to one among many authors, the highest, who must have posited this ultimate design; then as from things to their causes, so entirely and

in the same series, from the last existing cause but one to the ultimate existing cause; and in the ontological proof, moreover, existence is treated as one of the qualities, which together constitute the *essentia* of a being! If you distinguish with justice the concept of existence from that of essence (*essentia*), you cannot treat existence as one among the many qualities, which together constitute the essence of a thing, by whose accession the concept became richer or even the thing itself larger. A thaler is fully worth just as much when it officiates only as a concept in a mercantile bill of exchange as when it exists really in coined silver. And the concept of prudence remains the same, whether I predicate prudence of a prudent man as existing, or deny it of an imprudent man as not existing in him.

§ 96. *The correct Form of the Proofs for the Existence of God.*

As, however, those proofs prove nothing in their scholastic form, so there, nevertheless, lies a truth at bottom of each of the same. This has my highly honoured friend and colleague K. Ph. Fischer (in his work, *Die Idee der Gottheit*, Stuttg. 1839, p. 46 ff.) proved in a most brilliant manner and with the highest mental acumen, so that nothing else remains here for me to do than to reproduce briefly his development, whilst I urgently commend to read with him the more complete demonstration. You are not permitted to put the question thus: Whether existence belongs to the absolute; but in what form does it as the absolute exist, whether as an abstract, primary unity, or whether as an unconscious primary power, or whether as a self-conscious primary mind? Thus now an absolute, as a subjective creation of the mind, is not, in the first place, established in us and afterwards its existence, its objective existence, proved without us, but the essence and the form of the existence of the absolute, *i.e.*, of the primary existence, are discerned as well from the facts of the human consciousness as of the world, and proved in them. (a) The

Ontological proof in its correct form contains nothing else than the truth concerning the relation of *essentia* to *existentia*, of essence to existence. Whilst, however, in the scholastic proof the inference is drawn from the essence to the existence, so here it is drawn from this to that; it is recognised and proved that existence in the true, full sense can be attributed only to the absolute *essentia*, only to the essence which in itself is absolutely full of contents, most defined, and which is not most abstract, most void, that consequently the concept of absolute reality includes in itself that of absolute essence. To every existing thing we must ascribe a reality of existence so much the higher, not the more abstract, the more void of definitudes it is; but the more concrete, the richer in definitudes, the more essential it is. A truly "more general" existence is not allowed to contain in itself fewer qualitative definitudes than the particular existences subordinated to it, but must have taken up in itself the truth of their definiteness. Only with the concepts which we, men, form subjectively by abstraction, the more general concept is the more abstract and the more void of contents (*e.g.*, "animal" is more abstract than "vertebrate-animal"), but, just for this reason, is also the more remote from real existence (since the genus exists only in the species, the species really only in the individuals). In the domain of real objectivity the more essential is the more general. The vegetable monad is more really existent than the single molecules of water or silicic acid or chlorophyll, which belong to vegetable bodies, or than the single leaves, branches, flowers. For the law of becoming is more really existent than the complexes of powers, which it controls and dissolves, and more really existent than its own transitory, phenomenal phases. Law is more really existent than fleeting phenomenon. Thus every monadical microcosmos is the more really existent the more definitudes are taken up in it, the more and the higher are the antitheses mediated in it. Now every self-conscious being is unconditionally more essential than the unconscious; for with consciousness is given the

summation of a plurality of sensations in the unity of a representation, with self-consciousness, moreover, is given the summation in concepts and the summation of these in a unified, intellectual contents distinct from the ego. If, now, the absolute, as the absolutely existent, must be the absolute essence (the absolutely determinate essence), it must consequently be the absolutely self-conscious essence. In it the antithesis between real objectivity and subject-existence, in which we men are as yet placed (we who on the natural side are only-objects, and on the intellectual side, as but learning, are exposed to "only - subjective" thinking, *i.e.*, to error, § 92), must be raised to its unity, so that in it real subject-existence is identified with real objectivity. (b) The Cosmological proof. A true cause in the higher sense is only that which operates with design, and therefore consciously. Where an unconscious corporeal thing acts upon a second such, there cause and effect pass immediately over into one another, and the cause ceases in its effect, vanishes in it. (So the chemical, the physical cause.) The vital monad of the vegetable, as relatively continuing, is distinct from its single effects, but is not itself distinguished from them; the animal vital monad is itself distinguished, since in forming its body it not merely operates, but from this organization that has been called forth by it, returns into itself as vital feeling and representation. In the highest sense, however, the concept of causality belongs only to the self-conscious, vital monad, in as far as it, cognizant of itself from the very first, is distinguished clearly and permanently from the corporeal existence which it has itself organized, and makes use of the same with freedom as the means of the realization of its intellectual contents (thoughts, resolutions). With the human vital monad, however, this is not the case in an absolute degree, because, as forming a body, it is still bound to and in the body, and so also, as percipient and reflective, to organs of the body, and consequently is still half and half identical with the organism effectuated by it. In the absolute sense

the concept of causality belongs only to such a self-conscious intellect, which has over against itself the sphere of phenomenon as another, which is plainly not itself, but one caused and posited quite freely by it, controlled by it. But now every cause operates so much the more extensively and so much the more primitively, the more it approaches to that full sense of causality, *i.e.*, the more it is distinguished from its effect. The more unconsciously it operates, hence the more it coincides with its effect and vanishes in it, so much the more isolated is its operation. (Cf. the cells, which subserve the psychical vital monad, with the historical forces, which a world-historic man, a Cyrus, an Alexander the Great, a Frederick the Great, is able to make serviceable to himself and employ for his purposes.) Thence follows that the all-embracing causality, lying at the foundation of the universe, must be a self-conscious, a design-setting cause. But now the cosmological proof of itself here passes over into the: (c) Teleological. This, correctly remodelled, is no other than that given § 88 ff. In nature everything is ordered with design; the ultimate design of this system of designs, however, lies not in nature itself, but beyond nature, in the sphere of self-consciousness. That power, which is the author of that order, of that system of designs, must therefore be a self-conscious power, since its ultimate design, *i.e.* (§ 88) its most primitive thought, has the sphere of self-consciousness, and the essence and the concept of self-consciousness, for its contents.—Thus this excursus on the proofs for the existence of God leads us back to the point where we had reached § 95: to the knowledge of God as of a design-setting Author, in whom consequently an inner intellectual life of self-conscious determinateness of essence is the first thing, from which the design-setting will for the creation of the universe first goes forth as a free will.

Obs.—That not a unity of abstraction, but a unity, carrying in itself the fulness of all real definitudes, and, just for this reason, a self-conscious intellectual unity—and indeed as voli-

tional—must lie at the foundation of the existence of the universe, has Wigand (vol. ii. pp. 281 and 486 ff.) also proved in an excellent manner.

§ 97. *God is Love.*

That primitive inner intellectual life of self-conscious determinateness of essence in God, wherein—without regard to the whole creation and the entire system of creative designs and laws operating with design—His peculiar essence consists, is one unknown to us, unapproachable to us, transcendent for our cognition. Only one thing we can say with logical certainty: There must be contained in eternity (“from eternity,” as we are accustomed to speak anthropomorphically) in that inner intellectual contents or intellectual life of God, among other things, the possibility of a world, of a created universe, because in truth the thought of the universe forms in fact the presupposition (according to § 93) for the design-setting act of the will in positing and creating the world. But just from this point a further view into that inner intellectual life of God, a view of infinite depth, now discloses itself to us. God beholds in eternal beholding the possibility of a world distinct from Him and of its ultimate design and of the entire system of lower designs, which are related to that ultimate design as the means of realization. Now that He realizes this thought, that He lets that possibility become actuality, that He, in design-setting, actually wills the possible design of a world (this even in eternal volition, which, however modal, is not the *prius*, but the *posterius* of that beholding of the possibility)—this is love, because a free volition. Because God (according to § 94, *Obs.*) needs not the world, and in no wise is necessitated to posit it in volition as actual, so the will to create it is a free volition, a free self-communication of His existence and of His essence to another. And just on this account the ultimate design, lying at the foundation of the creation of the world, is attained in the personal creature, man (see § 98, *Obs.*), the egoistical being, which

participates not only in the real objectivity of God, but also, as a self-conscious subject, is homogeneous with God. For love (loving, not liking) takes place only between self-conscious, personal beings. (Love of parents, love of child, love of friend, love of husband, love of man, love to the miserable; towards only-objects there is but a liking, a having a joy in them.)

Obs. 1.—That the sexual ἔρως, this desire, at the bottom of which a natural impulse lies, is to be separated conceptually from ἀγάπη, though with man it is to be glorified and hallowed by ἀγάπη and for ἀγάπη, must be expressly noticed in opposition to Herr E. v. Hartmann and his mental relations.

Obs. 2.—The Holy Scriptures say: "God is love." Is then love (ἀγάπη) not the immediate primitive-identity of cognition and volition? A will, which has for its contents and goal the universe of the intellectual contents and intellectual life of a second ego. "I will thee as thou art. I behold myself in thee. I behold thee in myself. I will myself in thee." All in inseparable unity.

§ 98. *The true ultimate Design of the Universe.*

And now only do we gain perfect clearness on the ultimate design of the universe. In § 80 this ultimate design appeared still included as an intellectual *perpetuum mobile* in endless rotation around itself. "The ultimate design of collective nature is that man may discern the system of suitable laws, and in them just this ultimate design: that man," etc. The true point of aim and repose: God, which there failed us, we know now. Inorganic nature is ordered for the organic, the organic for men, for the kingdom of personal beings; in man the nature-side exists for the sake of the intellect, and the intellectual organization exists for the design, in order that man may cognize not merely the system of suitable natural laws lying downwards from him, beneath him, not merely the laws of thought even, and his own state of being determined for the cognition of all these laws, but may, from them all, cognize God, by whom and from whom all these exist. God has created the universe in order that

the crown of nature, the personal creature, may cognize (α) God, and (β) the world as the work of God.

Obs.—The possibility, that—and the question, whether—there are also beyond our earth personal creatures, does not here concern us yet. Even as Christians we, for the present, need as yet have no regard, namely, to the biblical angels—directly in agreement with the Bible itself, Heb. i. 5 and 13—to say nothing of Gruithuysen's inhabitants of the moon and the inhabitants of the planets or fixed stars, kneaded from analogous material. On this point, cf. beneath, § 143, *Obs.* 1. Let that possibility, however, be granted, they can be created for no other design than we men. See § 143, *Obs.* 2.

§ 99. *Return to the Ethical Law.*

As what sort of a being will God now be cognized by man? Not only as the absolute Ego, which, in cognizant volition as an omniscient and omnipotent being, has called into existence that system of laws, of complexes of powers, and of vital monads, and as an omnipresent being upholds (*sustentat*) their existence with His volition—not only as the absolute Ego, which from the side of self-consciousness is homogeneous to our ego, which in beholding spans the totality in unity, and which acts in a design-setting manner—but also as a being which as personal stands, and wills to stand, to us, personal beings, in a personal relation, since the ultimate design of its creating is this, that it wills to be cognized by us, and indeed as the loving One, and therefore wills to be cognized in love. But now this leads us back to the ethical law.

CHAPTER III.—THE ETHICAL LAW.

§ 100. *The Feeling of Constraint to know God.*

We have attained to the cognizance of God by means of a process of thought, which looked so much the more complicated as we had, as it were, to force our way, point by point,

through hostile troops, consequently had first to conquer every step of land, and in a scientific controversy to make good our positions. Accordingly it might gain the appearance, as if quite an extraordinary skill and dexterity of thought should belong thereto, in order that a man may attain to the knowledge of God. With this, however, it is by no means so. Both the premisses, which lead to the cognition of God (namely, the knowledge of the external world and the knowledge of self), are in every human consciousness, even in that of the simplest peasant or child, immediately given, and operates directly as an urgent feeling which presses on to the knowledge of God. (a) The premisses. Every man finds himself as a natural being bound to the body and identifying himself with it, assigned in his bodily life to conditions of life, set into the order of collective nature, begotten in an animal manner, born, breathing, eating, drinking, sleeping; he finds himself in the world as a part of the same. And, nevertheless, every man at the same time knows himself as an ego, which in perception and thought receives into itself this world and its relations, makes it, or a part of the same, the contents of its knowledge, the object of its volition and endeavour, is herein distinguished as a rational being from animals, and with perfect justice regards it as a disgrace and an insult when the name of an irrational animal, as a name of his essence, is attributed (see *Obs.*) to him, the man. The natural man is immediately conscious that he is a being raised above nature. The most ancient Indo - Europeans already named man, *manuscha*, the thinking one (of the same root with the Latin *mens*, and related with the Sans. *māna*, honour), and therewith averred their consciousness of the elevation of man above nature. (b) The feeling of constraint. Between both those sides of consciousness an involuntary tension takes place. As long as man has nothing further than both those facts of immediate consciousness, he is a mystery to himself, he feels himself rent asunder, "a monster birth from dirt and spirit," a "beast ridden by an angel;" there is an

inner contradiction in him; his state of being bound to an animal body contrasts with his egohood, his intellectual constitution; and if, in order to attain to unity with himself, he choose to think and understand and conduct himself altogether as a mere animal, his egohood, on the contrary, makes energetic opposition, and were this only that pride, which in one breath denies continuance to the individual and praises the "intellectual progress" of the race. In the most energetic manner that opposition directs itself—and indeed in the form of immediateness—against the dissolution of the bodily life. We do not here as yet examine the cause of death; the tenet of the Christian religion, that death has come into the world through sin, does not here as yet positively concern us anything at all, where we have solely to note the facts of the natural, general-human consciousness; we let it in the meantime be valid, that with man the wearing out and final dissolution of his organism takes place as an order of nature, just as with animals (which, moreover, as we shall see later, § 132, is perfectly correct, and as little in contradiction with that Christian dogma as 1 Cor. xv. 45 f. is with Rom. v. 12). But, now, if we acknowledge that dissolution of the organism as a dissolution resulting from natural causes, the rare phenomenon now meets us, that, whilst the animal does not allow itself in the least to be influenced in its enjoyment of life by the death impending over it also, and undergoes the actually ensuing death (so far as it is not a violent, but a natural one) with dull repose, man feels a horror in the presence of death, not only perhaps in the sense that he is tortured (which permits of being explained psychico-somatically) at the approach of the death-combat by death-pangs, but that the expectation of being compelled to die one day casts its shadow backwards upon his whole life. The ego feels nature's order of the necessity of dying as one contradicting its innermost intellectual essence (as of a higher order).—Herein that tension also shows itself between the consciousness: of being a natural being, and the consciousness: of

being, as an ego, an intellectual essence, certain of itself, raised above nature. The same tension shows itself yet much more plainly in the domain of the will, namely, in a vacillation hither and thither between motions of the selfish-egotistical will, which manifest themselves as pride, self-will, lust of power, until the Satanic pleasure of destruction, and motions of sensuality, which manifest themselves as inordinate desires of all kinds of pleasure until demoniacal enslavement to sensual impulses. In short: as long as man is dragged hither and thither between both these poles of his being, he is rent asunder and without peace. He does not emerge from this inner discord before he composes himself in God.

Obs.—Schopenhauer (I have the incident from a reliable source) related one day at the dinner table in the Swan in Frankfort-on-the-Main, that he scolded his dog: "Thou man," and the animal, feeling the insult, thereupon timidly ducked itself. Schnyder von Wartensee, one of the messmates, thereupon said to Schopenhauer: "Consequently, then, we indeed do you an honour when we say to you: 'Thou dog!'" Schopenhauer felt himself (in contradiction with his theory) deeply offended, stood up, and left the room.—With the above-mentioned there is self-evidently no contradiction, when men, comparing a quality (as strength, swiftness, cunning) with that of an animal, attribute to themselves, and permit to be attributed by others, the name of this animal as a title of honor, as when, *e.g.*, King Nalas bears the surname *nara-vjāgra*, *nara-sardūla*, "man-tiger;" when an Indian names himself "the eagle," "the falcon," "the snake," and the like. Just here belong names of flattery, as "my little dove," "my little lamb."

§ 101. *Wisdom, Happiness. Holiness.*

Let us consider the condition of a man who has raised himself to the knowledge of God, and stands in the light of this knowledge. Let us imagine such a man who continually and fixedly executes this cognition. (a) Such a one does not know himself to be involved in the tension of the antithesis between nature and self-consciousness, but he knows himself immediately, and in the first place, in personal relation to the personal God. He seeks the central-point and

point of gravity of his (own) existence not in nature, so that he might know himself to be degenerated to nature as a natural being, but just as little in his own individual, finite ego, so that he in (gross or fine) egotism might make himself the centre of the world (as far as he stands in relation to it); but he recognizes himself as part of the universe, not, however, as a part of nature, but as a part of the universe teleologically ordered by the personal God, and indeed as a being (monad) in itself indivisible, which is itself a personal, intellectual being, and is determined thereto and organized (bodily and intellectually) thereto: to cognize behind phenomenon the laws, those of intellect along with the laws of nature (*i.e.*, those of design - setting freedom along with the category of causality), above the lower designs the higher, and above designs the design-setting God as a free-loving God. Thus, then, such a man, sharing in the knowledge of God, recognises this as the destination of himself, that he may cognize himself and the world as from God and existing in God; and he discerns as the ultimate, the highest design, which God had in the creation of the world, this: that God wishes to be cognized by His personal creatures, and consequently wishes to be revealed and glorified in them, in as far as He reveals His own nature—namely, the fulness of His love in the fulness of His wisdom—to them. Such a man, measuring everything in the light of God, *i.e.*, discerning everything in its true light, and all relations, designs, and aims according to their true relative worth to the highest, the absolute design, is wise. Now thereby is determined also (*b*) his relation to the world and (*c*) his own behaviour.—(*b*) Such a man is no longer sensible of the visible world, which is the object of his perceptions and the scene of his experiences, as a power foreign to and standing in hostile opposition to his ego, which he, in restless haste or eagerness, would have to subject to his will and make serviceable, but he recognises this external world (nature and history) as that which is posited by God, consequently as a phenomenon of the Divine creative thoughts, as

a product of the Divine creative wisdom, as a phenomenon of the Divine will, which manifests itself in nature in the form of natural law operating with necessity, but in history in the form of guidance and government of personal individuals (see *Obs.*). Consequently, such a man refers everything, which he sees and experiences from the side of the external world, back to God, to the God whom he knows as personal, as related to himself, whom he knows as the design-setting Author of the world, and of whom he knows that His supreme design is just this, to reveal His love to man. In this reference of all experiences to God, in this certainty that every event, as one divinely ordered, must and does serve the design of God's love, such a man is participant of the profoundest peace; even misfortune and suffering, because he knows that they are the decrees of God for his best interest, cannot rob him of this inner peace; he is happy. (c) As, however, his life of sensation in relation to the world, so also the behaviour of his will is determined by the knowledge of God. It is quite impossible that the knowledge of God should remain a mere theoretical knowledge; it is immediately a personal relation to God, and thereby determines itself in personal behaviour toward God. For, with and in it is given the knowledge of one's own destination for an organ of that eternal love of God, which wills to manifest itself in the personal creature for his beatification. Therefore a man, taking cognizance of God, determines himself in free self-determination so far, that this destination set him by God may be attained; as the ultimate creative design of God is this: to glorify Himself in the personal creature, so correspondingly the ultimate design and the supreme goal of the will of the man taking cognizance of God is this: that God may be glorified in him, *i.e.* that he himself may become a living reproduction of the thoughts of God's love. Neither in the possession or enjoyment of natural, sensuous, perceptible things (riches, pleasure of every kind), nor in the assertion of his own individual ego (egotism), does such a

man see the goal of life to be attained, but in mutual love to God. All other ends are subordinate to this. God is the ultimate, the highest end which he has in view. In all that he wills, he wills God, *i.e.* he loves God. For a volition which has not single things but a personal being for its object, we name love (§ 97). And now, if the task of every created self-conscious being, of every individual ego, is to fill itself in the way of cognition as of volition with an intellectual contents and personal determinateness (§ 55), and if every man according to his own natural disposition and choice selects for himself his sphere of cognition and operation—there indeed he is able to know nothing in detail, to control nothing—the man taking cognizance of God, be his sphere of knowledge and of operation as special or as limited as it may wish, nevertheless possesses in his cognizance of God the highest, the most universal principle for assigning to every terrestrial sphere of knowledge and of operation its proper place and its proper value in the whole, and is kept from making an idol of it. And now, as a concrete-separate individual, the man, taking cognizance of God, may, in this individual knowledge and operation, also develop himself as an individual personality; this he has in common with all other men taking cognizance of God: that he is a man of God in whom the essence of God, the love of God is mirrored. The determinateness of the will by the knowledge of God is the ethical-good behaviour or holiness.

Obs.—If the man, living in the knowledge of God, accepts every event in nature and history as a phenomenon of the Divine will, you object as concerns nature: In it everything, the most isolated, follows with unalterable necessity according to natural laws, consequently, no other will of God can here be assumed than at most that legislative will which has placed these laws in nature; of a “providence” or “world-government,” in virtue of which even the isolated occurrence of nature (lightning-flash, deluge, pestilence, and the like, fruitful and unfruitful weather) may be guided, ordered, governed for intellectual (pedagogic) ends on behalf of individual men, there can be

no question; every prayer for preservation in a thunderstorm, every thanksgiving at a harvest-home is levity and folly. All functions of my hand and my arm are composed (§ 65, *Obs.* 1) of elementary, physico-chemical processes, which arise according to natural laws; and if I cannot hold my outstretched arm longer extended than five minutes without weariness, the weight of the arm, *i.e.* the law of attraction, is the cause of this; and just so this law co-operates (along with others) then, when my hand deals a blow upon the cheek or back of a lazy or naughty boy to be punished. Nevertheless, no one will wish to deny that not the earth's attraction, but a designed resolution of the will (resting upon knowledge and reflection) has been the cause of the punitive slap. God, however, stands to the macrocosmus of nature in an analogous relation as my ego to the microcosmus of my body. Thus, as in the latter the efficient powers of nature (according to § 65, *Obs.* 1, and § 76) are either "set free" and transposed into activity by an incorporeal, intellectual impulse, which proceeds from my will to the motor nerves, or are kept quiet; so to God, in whose design-setting will entire nature has the cause of its existence, who consequently governs nature much more unconditionally than we do our body, must necessarily be ascribed the power of setting free the powers of nature and, again, of transposing them to rest according to His design-setting will. And if by the existence of that impulse in the human microcosmus the inviolable continuance of the laws of nature as such is in no way injured or impaired, the same, well, will also remain uninjured in the macrocosmus of the universe by the existence of the impulse of the divine will. And finally, if it is conceded by all physiologists that we know nothing at all concerning the manner how our will acts upon our motor nerves, so much the more will we certainly have to compose ourselves on this, that we likewise know nothing at all concerning the manner how God acts upon the universal organism of the complexes of powers and systems of powers subsisting in His will. Entirely in the same sense Wigand expresses himself (ii. 336) on the "favourite argument, grounded on the iron order of the course of nature, against the immediate operation of God in nature." He says: "By this, however, it is not to be overlooked, that the aforesaid" (*i.e.* the derivation of an event from natural causality, as of one resulting with the iron necessity of nature), "besides the knowledge of laws, also constantly presupposes certain circumstances, *i.e.*, that to a computation belongs not merely the calculus, but also the data, namely, the state of being given of certain factors, which are independent of the calculus, and therefore do not exclude a free determination of the will"—Secondly, as to history,

materialism reduces the resolutions of the human will to natural processes in the brain, consequently does not acknowledge at all a distinction between an historical event and a natural event, and here repeats only the foregoing objection already just now refuted. He who, on the other hand, concedes to man a spontaneous, an actually free will, infers even from this freedom the impossibility that God in governing can exercise an influence on the course of history. Now this question: How does the world-governing will of God co-operate with the human will, can only be answered (§ 127) when the entire domain of ethics, inclusive of the investigation concerning sin, is considered. In the meantime the mention may suffice, that even the (unanimous) assumption of Christian theology extends the world-governing influence of God not to the resolutions of the will as such, but only to the making possible or the not making possible of their execution.

§ 102. *Personal Continuance after Death.*

In that happiness (b) even the prospect of death cannot disturb the man living in the knowledge of God. If we again (as in § 100) leave the question concerning the cause of death aside, and consider death simply as a given fact, the man living in the knowledge of God has, in the knowledge contained herein of his final destination, the guarantee and certainty that his vital monad, his ego, will not be touched by death and the dissolution of his organism. Not at all, perhaps, on this account, because it is a vital monad. (This was Plato's opinion in the *Phaedon*.) For why should a vital monad not also be capable of perishing? Every creaturely vital monad, the highest as the lowest, subsists, in truth, only in and by the will of God (§ 91), and infallibly falls back into non-existence as soon as it ceases to be willed by God (more exactly: as soon as the duration of its existence, set to it by the eternal will of God, has expired). Consequently, the question is only this: Does God will that personal egoistic vital monads should cease, or does He will that they continue to exist for ever? This question is answered in conformity to the design for which God has

created the same. The vegetable and animal monads are called into existence for the design, that in them the species may propagate itself (§ 77); with them, therefore, the individual just fulfils only the ends subserving bodily self-preservation and generic propagation, and posits no designs going out beyond these. Even so, the monads of middle and lower order (§ 67) in the human body are created only for the vital functions of the bodily life. Man, on the other hand, *i.e.*, the ego, the human vital monad, is (§ 81) not merely called into existence for the sake of the species; in the human race the individual as such is a self-end. If pantheism were right in the assertion, that humanity existed only for the sake of abstract reason (§ 82), *i.e.*, in order that the rational laws of objective existence might by degrees come to a knowledge of themselves in the human brain, or more intelligibly expressed: in order that the human race may by degrees accumulate ever greater treasures of natural-historical and historical conceptions and knowledge, —if this were the end of man, then the assumption of a continuance of the human vital monad after the dissolution of the bodily organism were surely a folly. The individual man would then have only the vocation of building up in his time and generation his part in its place, in the Babylonish tower of “absolute knowledge,” and then it would be said: “The Moor has done his duty; the Moor may go.” But now we have learnt (§ 83 and 80) that pantheism is an illogical sequence from a correct premiss, and a logical sequence from an incorrect premiss; we have learnt (§ 81) that the personal creature exists not merely on account of the race, but each one exists in the first instance on account of himself, that he may mature to a man of God. The goal and destination of man does not lie therein, that he may enter into a relation to nature, to history, to abstract knowledge, but that he, as a personal being, may enter into a relation to the eternal personal God; God wills every man to become a god (*cf.* the word of Christ, Matt. xxii. 32), and every man is to become a man of

God. If man is destined for a relation of love and of life to the eternal God, his destination is not settled, and is not attained with the death of the body. Therein, and therein alone, lies the guarantee and certainty, firm as a rock, of the continuance of man after death. To wish to prove personal continuance to a man, who has not yet attained to the knowledge of God, and consequently to that of the design of God with him, from premisses, which lie in the natural constitution of man as such, in his soul, etc., is unconditional folly, because impossible.

§ 103. *The Cognizance of God an Act of the Will.*

The premisses for the cognition of God are (§ 100) given in every man, and thus every man could and should come to the knowledge of God, and to that of his own destination. If, now, this does not happen in every man, the cause lies not in a casual ineptitude or want of exercise in the operations of thought, but in the will. Not in the former, for according to § 100 there need not even be first a logical operation; the urgent feeling to know God is immediately given to every man as a feeling of discord, which permits him not to rest until he has found God; and to this negative feeling corresponds the positive, the designed order of nature (see *Obs.*) obtruding immediately upon every man, which, by means of the innate category of causality (without any artificial thinking), points to a design-setting author, *i.e.*, to a personal God. Whether you understand to formulate this conclusion in the correct form of a logical syllogism, nothing at all depends thereon; in the form of immediate presentiment it obtrudes itself upon the simplest man. Consequently, not in dialectic ineptitude, but in the will, in the free self-determination, lies the cause when a man does not attain to the knowledge of God. The knowledge of God is (§ 101) not a cold theoretical knowledge, but such a knowledge which strives to determine even the will, and to which even the will is able to offer resistance,

because it is will—because it is free self-determination. The knowledge of God in us has no constraining power operating after the manner of a natural law over our wills: if thou hast discerned that an absolute, design-setting, personal Author of the world exists, thou art not therewith as yet necessitated and constrained, as a matter of fact, to let that, which is to be, and is destined to be, the highest object of thy volition, be, even as a matter of fact, thy highest object, to refer everything to God, to choose God as the ultimate object in every volition, *i.e.*, to love God. But, in spite of thy knowledge of God, thy will is able to treat egotistically thy ego, as the central-point towards which everything must be directed, or in sensual immersion in the world to concede to the animal instincts the rank of rulers (§ 43). But now the will, negating its eternal destination in God, exercises infallibly a totally beclouding and depraving effect backwards upon the knowledge of God already gained or given in its premisses. For the will which is adverse to the nature of this knowledge is not compatible together with it; one of the two must yield; if the God-opposed will determines not to give place, it must seek “to become free” from that which would will to determine it otherwise than it wills to determine itself—“from that which presses it”—and thus then man invents, instead of the living, eternal, personal God who is holy love, some one *numen*, or even an entire system of deities, as the same is compatible with that selfish and secularized will; he makes himself a god according to his own fashion.

Obs.—The human race has taken cognizance of ends in nature much earlier than the means. In order to cognize the natural laws operating with design, through which (as through the means) God attains His appointed ends, the scientific research of hundreds and thousands of years was not necessary. On the contrary, the ends themselves which were attained (the preservation of natural species and of the human race itself by the illuminating, heat-giving sun, the rain, the growth of plants, etc. etc.), and that such ends might be attained, this the nations, as far as we ascend in history, cognized. In Part II. we shall see that then even the higher we ascend up into the remotest

antiquity in the hand of documentary sources, so much the more distinct do we find traces of the primitive worship of an invisible, personal, holy God.

§ 104. *The Ethical Law of the Destiny of Man.*

With this, however, we have arrived at that ethical law again from which we had started, § 14 ff. Only the same no longer, as there, appears to us as an isolated singularity taken out from among the other facts of consciousness, but now we recognise the same in its intellectually-organic, essential connection with the entire complex of the facts of consciousness, indeed as the keystone of this complex. The destination of man, given with the essence of man, and inseparable therefrom: to know God, and through this knowledge of God to allow himself to be determined (or in other words, to achieve a personal relation to the personal God), is the ethical law given with the essence of man and distinguishing his essence from that of the animal. And now we see (according to § 103) also that, and why, the same operates not in the form of a necessity, but addresses itself in the form of a demand to the will of man, and that, and why, the will as free spontaneity and self-determination is able to place itself in contradiction with this law. Finally, we also see that, and why, this law has for its author neither natural law nor the will of the human individual as yet chiefly identical with arbitrariness, nor the social convenience of a majority of men, but the eternal - personal, design - setting Author of the world, the ultimate, the highest goal of whose design - setting is holy love.

§ 105. *The Ethical Proof for the Existence of God.*

And now we are also able to draw immediately from the ethical law an inference to the existence and essence of God (that inference which forms the kernel and contents of the truth of the so-called "moral"—more correctly according to

§ 16 : the ethical—proof for the existence of God, and at which we had already § 20 arrived, whose completion, however, we have there purposely still renounced). This conclusion, into which the whole length of the investigation hitherto traversed is abridged, is as follows:—In us there is present and inseparable from our nature an ethical law, which asserts itself chiefly and immediately in a negative form, while it condemns in us motions of the will, intentions, dispositions, as evil, and excites unrest in us. Since this law can have for its author neither nature (since it operates not with necessity in the manner of a law of nature), nor our own will (which it condemns), nor convenience or custom (which it likewise contradicts), since, however, it addresses itself with its demands to our consciousness and our will, so it must have for its author an intellectual power, which stands just as well above nature as above the individual human consciousness—a power, which in antithesis to the arbitrariness of the human self-determination is a power in itself determinate, intrinsically full of contents, and has for its contents the ethically good, even ethical necessity, and which, in antithesis to the necessity of nature, is at the same time an intellectually free, self-conscious power; and only thereby, that it is the latter, was it able to be the Author of the sphere of self-conscious self-determination. Consequently we thus cognize God as a self-conscious-personal being, who has ordained the sphere of ethical law (*i.e.*, of free creaturely will) as one corresponding to Him—but also as an absolute, eternal being, as the Author of the universe. For he who places in man the demand of the ethical law, does this, indeed, not from without, but so that he has placed these demands in the nature of man himself; he does it therefore as he who has organized the nature of man, who has created man. Since, however, man is the summit of nature, and since entire nature is ordained for man, so not man alone may, but the whole of nature, the universe, must be created and ordered by that personal Author of the ethical law. And thus this consideration starting from the

ethical law (chap. i. and § 105) leads us from the ethical, self-conscious being of God to His absoluteness, whilst our development of the general facts of consciousness (chap. ii.) has led us from the absoluteness of God to His self-consciousness, personality, and ethical determinateness.

§ 106. *Conscience.*

But now, since every man bears in himself the ethical law as a determinateness of his peculiar essence, he thus possesses in the same those premisses, which constrain him yet much more immediately to the execution of the cognition of God than does that discord between the world-consciousness and self-consciousness together with the sight of the teleologically ordered universe (§ 103). In the ethical law the personal, holy God gives practical proof of Himself as one addressing Himself to the will of man. This ethical law, because it is (a) a knowledge given immediately in man, and (b) is the central knowledge, inhering in the essence of man, of the ultimate, the highest end of his existence, the knowledge of his destiny, we directly name "conscience," i.e., knowledge simply.

Obs. 1.—With *giwis*, "*gewiss*," the word "*gewissen*" has nothing to do; it is rather the Old High German *giwizzi*, *gewizzi*, which has the significations "knowledge, wisdom," then particularly "conscience," and comes from the Gothic root *vitan*, Old High German *wizan*, *wizzan*, "to know" (etymol. = *οἶδα*, *vidare*), not from the causative *wizan*, "to show, to reprove, to chastise," nor from the derived *giwizzên*, "to pay attention."

Obs. 2.—According to what has been said, it is evident that that which we are accustomed to designate as "conscience" is not a distinct organ or distinct faculty of our mind (perhaps a single one among the powers of the soul), and just as little (as Güder supposed, *Stud. und Krit.* 1857, H. 2) an "activity" or "function" of the mind which results from the co-operation of different faculties and powers (similarly Gass, *The Doctrine of Conscience*, 1869). But conscience, or the ethical law, is the destination set by God to man, which is one existing objectively for man, and which is grounded in man through the essence of man himself (which consequently is not afterwards first

“organized in the essence of man,” as Baumstark thinks, *Apolog.* i. p. 219), and which, just for this reason, makes itself known immediately to man, and indeed in a negative form, therein, that every opposition of the human will against that destination appointed by God (every deviation from the deportment sketched in § 101) is *eo ipse* an opposition of the human will against the most peculiar essence of man, consequently, is immediately felt as an inner discord.—That man is created as a self-conscious and volitional ego, therein consists and therewith is given the ethical law; that is to say: as a self-conscious, personal, volitional being—thereby, that he is such a one and no animal—he bears in himself his destiny: to place himself in a personal relation to the absolute, personal Being. And, further, it is thus quite evident that the ethical law according to its innermost contents is at the same time a religious law (what Baumstark, pp. 212 and 216, must concede after that he had denied it, p. 210, in a clumsily constructed polemic against Schenkel). The perverseness of Schenkel’s theorem of conscience lies not therein, that Schenkel ascribes to conscience a religious side, but therein, that he with usual thoughtlessness and confusion exchanges the law or the destination of man with faith in redemption, and wishes to deduce the facts of redemption from the law.

§ 107. *Contents of the Ethical Law.*

According to the development given in § 101, we are now also in the position to comprehend the ethical law, which had presented itself to us, § 14–20, only on its formal side (namely, as one effecting its execution, not with natural necessity, but addressing itself to the will), even on its material side, *i.e.*, to answer the question: What is the contents of the ethical law? And since then, according to what has been developed in § 101, it is forthwith evident, that the ethical law has immediately for its contents a religious demand, namely, the demand, that man should with his will unceasingly execute the cognition of God, *i.e.*, should let his entire volition be determined continually by the knowledge of the eternal-personal God, who is holy love. And now, since volition is free self-determination, so this again means nothing else than: that man should determine himself to the being determined

by the knowledge of the eternal-personal, holy-loving God, that consequently he should put himself in the personal relation of free mutual love to God, who is holy love.

§ 108. *Defective Apprehensions of the Ethical Law.*

That lower apprehension of the ethical law, that apprehension by which the ethical law is viewed out of personal relation to God, and consequently is separated from religion, comes short of the truth, falls back from the position of the cognizance of God to that of the mere cognition of the external world and of self, and bears (§ 11) in itself the signature of heathenism. As soon as God is recognised as the Author of the ethical law, and therefore as the holy, loving One, there follows of itself the relation of the ethical law to God, the Author of the same, and consequently the religious apprehension of the ethical demand.—If we now consider those lower apprehensions, (A) the nethermost (which has already, § 87, incidentally been hinted at) is that where the contents of the ethical law is by no means as yet discerned as ethical, because man stands still, and wishes to stand still, on the one side upon the standpoint of the mere world-consciousness, simply apprehends himself only as a part of the external world, of nature, consequently as a mere nature-being, therefore apprehends all other men also only as nature-beings, and even reduces the laws of the intellectual, historical intercourse of men one with another (the laws of thought and of language, of the development of culture and of law, etc.) either directly to mere laws of corporeal nature (of the functions of the brain-ganglia), as materialism, or at least, obliterating the antithesis of nature and history, sees over again in the laws of the intellectual life only an analogue of the laws of nature, a mechanism of “impulses and affections.” From this then follows in a consequential manner the bad morality of eudæmonism, which knows no antithesis of good and moral evil, but only that of good and physical evil.

According to this morality, cunning is the highest virtue; one must be chaste for the sake of health, honourable for the sake of credit; he must be guided according to the prevailing custom and public opinion, because, in order to prosper in the world and attain his egotistical ends, he needs the co-operation of other men; every other man is to be used as an instrument. This morality of prudence has, as is evident, its limit, and indeed in that notorious eleventh commandment: "Let not thyself be caught!" *i.e.*, as far as that, which otherwise has influence for evil, brings no danger and no injury, it is permitted; he, who only knows to plan cunningly, also feels authorized to do dishonourable things, ventures even to snap the fingers at public opinion and prevailing custom. "A moderate enjoyment of sensual love is just as little immoral without wedlock as in wedlock," would permit a eudæmonistic superintendence of being expressed in a "practical precept of Christianity!" In this system of swinishness "goodness" is no concept existing in itself, but one fixed by the custom of the time, and by convenience, or rather not fixed, but changing with time (Moleschott, Forster, J. C. Fischer). The goal of this "morality" is a purely this-side one; the ultimate demand is not, that man should become something, which he is intended to become, but that he should conveniently attain the separate earthly objects which he sets himself. — (B) The second higher stage rests upon the standpoint of self-consciousness, where the ego, in its superiority over mere nature, apprehends itself as intellectual, self-conscious, thinking, without, however, getting beyond the dualism of mind and nature. Here arises the dualistico-intellectual, Stoical ethics, whose highest demand is this, that the intellect is to rule over the sensuality. For the concept of real ethical-goodness is here substituted the concept of a formal intellectuality, which again may happen in different forms. (a) The first phase is that of honourable Intellectualism, as it has appeared among the Stoics, with Kant, among the Kantian rationalists, where they with all

earnestness made it their duty to control the realm of the sensual impulses, where, however, they, in the most favourable case, did not get "beyond that standpoint of the slave, with which Schiller¹ even reproached the Königsberg philosopher, that standpoint where the good ever remains a foreign demand upon man, and (because it is to consist in a formal suppression of one side of his nature) never becomes his peculiar inner essence, where, however, in the worse and more usual case the "motives" of the rational understanding prove themselves as impotent over against the power of the will, which does not even desire to ward them off. (b) The second phase is the Pantheistic, where the entire ethical demand is dissolved and sublimated into an intellectual, or as we are chiefly accustomed to name it: an "ideal" one. While history is apprehended as a process of the development of rationality becoming conscious of itself, elapsing with absolute necessity, evil itself appears as a necessary member in this process, which indeed must continually be overcome, but also is certainly and infallibly overcome, and even finds its excuse therein, that it belongs² at one time to the process of rationality coming to itself. The ethical law here is not the highest, the ethical antithesis (between good and evil) is not the highest which there is for man; but the intellectual law: that rationality comes to the knowledge of itself, is for the world the highest, and for man the highest law is: to attain to absolute knowledge. For the sake of knowledge evil is even necessary; according to the pantheistic theory, the way through evil is the only way which leads to knowledge (a theory which, moreover, already finds itself expressed with all serpentine acuteness in Gen. iii. 5). The only demand which is here put upon man is this, that he fill his place in the great process of the development of the world; evil, which moreover slips

¹ *Ueber Anmuth und Würde*. Cotta's edition of 1828, vol. xvii. pp. 212-215.

² Cf. (Konz) *Eritis sicut Deus*. Hamb., Rauches Hans, 1855.

in also, is excused. The Hegelian Hotho wrote a little book on Mozart's *Don Juan*, wherein he proved that Don Juan is not to be understood as the common, dissolute fellow, for whom you usually take him; he is rather a highly accomplished genius, whose rich soul has found in no single love-affair full satisfaction, and therefore he has been compelled always to proceed to new amours. The pantheistic poet Heyse, in one of his "moral novels," delineates a country lass, who is delivered of an illegitimate child, and puts it down as an ideal behaviour, that she is not ashamed of this child, but is proud of the possession of it; this is a victory of pure, natural, maternal love over the conception of social propriety. Berthold Auerbach is the chief apostle of this doctrine, according to whom every man gives his law to himself. And thus, this leads consequentially to the third phase: (c) the Gnostic theory: that the spirit can by no means be defiled by the sin of sensuality (carried through in the most consistent manner by a sect of the Middle Ages, the "Brethren of the free spirit," then by Servedo). And thus this intellectual morality, which begins with the combating of sensuality, finally veers round to its own opposite. (The question, concerning the roots of the origination of this defective system of morality, will be later, § 113.)

§ 109. *Development of the Contents of the Ethical Law.*

The true contents of the ethical law is (according to § 107) this: That man should willingly determine himself to that for which he is destined by God, to that cognizance of God which is not conceivable without love to God. He who determines his will to know the eternal-personal, holy-loving God, who consequently wills to make God the object of his inner intuition, makes God, therefore, the object of his volition. To will a personal being, however, means: to love the same (§ 97). To will to cognize God as God, willingly to cognize God as God, means in itself nothing else than to

cognize and acknowledge Him as the absolute, eternal-personal, loving Author of the world. We cannot love God otherwise than so that we love Him as the Absolute ; for did we will to love Him otherwise, we would thus love not Him, but a figment of our phantasy. Love to God as the absolute, personal Author of the universe, consequently, excludes from the beginning this, that we should embrace any one creature with absolute love, treat any one creature as the absolute good, as the ultimate, highest goal of our volition. Even he, who loves God, cannot treat his own ego as the highest good, and the ultimate goal of his volition. Love to God excludes all deification of the creature, and in itself is the negation of worldly lust as well as of selfishness. Such a man lives for God, for the sake of God—not in the sense, in order to procure a gain or pleasure to God, for the Absolute needs us not (§ 97)—but indeed in the sense, that he gives to God the honour which is due to Him, the absolute and holy-loving One, that, as a matter of fact, he acknowledges Him as the One who He is. Such a man wills not to be a centre around which the entire world would have to revolve (analogous to the Ptolemaic system !), but he recognises God as the centre and as the sun of himself and of the whole world. Such a man loses himself, as it were, in order to gain and to receive himself again from the hand of God. He thus apprehends all, which is not God but a creature, as relativities, values every one thing and relation according to its relative significance which actually belongs to it in the order of God, and therefore is given to the man of principle a holy pure life and unclouded cognizance of God. (a) Of pure living. For, since he does not make himself a god, he is free from selfishness, he regards and treats other men not as existing on his account, but as such, each of whom, as he himself, is created for the same goal, and who, as objects of the eternal creative love of God, are even for him objects of love, since he wills nothing else than what God wills. How there lies in this disposition the root of all true social virtues

(self-denial and self-sacrifice, righteousness, honesty, truthfulness, care for the bodily and spiritual welfare of our neighbour) does not require to be discussed in detail.—And further, since he does not make the things of the world and nature his idols, he is free from worldly lust ; he enjoys and uses the natural possessions bestowed by God for the end ordained by God, he has them, however, as he had them not, *i.e.*, they are to him only means, never an ultimate end ; they are his as bestowed and lent by God ; they are his ; he is not their slave. How from this there follows the true vanquishment of sensuality, of desires, needs not again be discussed in detail.—And thus in all his volition the innermost motive is love to God, not the cold “ maxim,” which is ultimately born only of pride and self-admiration, and affords no power against the impulses of nature.—(b) Unclouded cognizance of the truth. Such a man may as yet not know many things ; what, however, he does know and has cognized, he has cognized under the right point of view ; he knows nothing perverted in principle ; he beholds things and relations in the light of God.—And in this love to God he is undisturbed ; if all possible, earthly, relative goods are wrested from him, God cannot be wrested from him. But thus he is found even in himself in the full harmony of internal peace. Will, feeling, and knowledge are raised in the religio-ethical behaviour to a higher unity. Religion is not a peculiar function which might have its “ seat ”—be it in knowledge, be it in volition, be it in feeling—as little as the health of the body has its seat in the nerves alone, or in the blood alone, or in the bowels alone—but religion is the right (normal) behaviour of the entire man conditioned by the right will ; it is the health (the normal condition corresponding to the law) of the personal subject.

Obs.—The $\pi\rho\omega\tau\omicron\nu \psi\epsilon\upsilon\delta\omicron\varsigma$ in Schleiermacher's system is this, that he even explains as religion that feeling of constraint developed in § 100, which urges us to the cognizance of God, whilst religion, nevertheless, exists only where the will obeys this

feeling of constraint, but save that, it is irreligion. Moreover, Schleiermacher has apprehended that feeling of constraint by no means in all its moments, but entirely one-sidedly, as the "feeling of dependence" (*Glaubensl.* § 4), namely, as the "consciousness of a placing-onself and of a not-having-so-placed onself." He has therefore only apprehended: the ego, and the dependence of this egohood upon an unknown power, which latter he in no wise discerns as an egoistical, personal one (cf. above, § 98).

SECOND SECTION.

SIN.

A. EXISTENCE AND ESSENCE OF SIN.

§ 110. *The Fact of Sin.*

IN opposition to the ethical law there appears the fact, that men, as they are in actuality, do not correspond with their volition to that law, and indeed that this incongruence of volition with obligation presents itself as a general state of the collective human race. In the first place, the correctness of this maxim, the actual taking place of this asserted fact, is to be proved. Now the most tangible proof consists in an appeal to consciousness, or to the veracity, or to the conscience, of every individual man. When we attend to the demands of the ethical law, unfolded in § 101 and § 107 and § 109, when there is sketched before us the portrait of such a man, whose highest aim, governing all the purposes of his life and motions of his will, is God and God's honour, whose ultimate motive is love to God, and who in all his volitions, invariably and without wavering, wills God only,—is there any of us who would not have the feeling, that here an "ideal" is delineated, to which actuality in no single man among us corresponds, nay, even only approximately corresponds? Whom, would his conscience not reprove? Who might not have had the experience, that this conscience, this ethical law, had manifested itself, and manifested itself daily, in him even directly in that form noted in § 14-16, in the form of an ethical judgment condemning the will?

Who might not find in himself, instead of that pure, holy love of God, rather selfishness and worldly lust, as a matter of fact, the condition of his will?

Obs.—And he who knows nothing of a punitive conscience and cares to know nothing, and laughs at that ideal, moreover, proves in this how much is his incongruence with that ideal, and consequently with the ethical law!

§ 111. *The Essence of Sin and its Principal Forms.*

Let us first of all learn to know more intimately in their nature and their effects both these principal forms of the evil will that has turned away from God.—The indivisible essence of sin is a negative one—be it well observed: not in the mathematical sense of a bare minus, *i.e.*, of a lesser degree of good (as, *e.g.*, cold is a lesser degree of heat), as pantheism alleges, but in the sense of a *privativum* or *destructivum* (as sickness is the opposite of health, and the disturbance and destruction of the same). The innermost indivisible essence of sin is, namely, the perverted direction of the will of the personal creature, the averting of the will (or “heart”) from God, the not loving God. But now from this privative negation two perverted positions follow, and indeed simultaneously and together. While, namely, the will (*i.e.*, the man *qua* willing) turns itself away from Him, who, according to the essence and destination of man, should be the object of his volition and love, and who alone is capable of being such an object of human volition and love, with whom man might be in harmony and at peace in himself: man is dragged down into restless and peaceless tension between the world-consciousness and self-consciousness, consequently between the objective external world, which now stands over against him no longer as a manifestation of the thoughts of God, but as one existing in itself and of value in itself, and the subjective ego, which, with its arbitrary volition, places itself in opposition to the external world, and sets itself in the place of God, and wills to put itself forward as a

centre in the world. Now it is Selfishness, in which the ego makes itself instead of God the centre, the ultimate, the highest end and aim of its volition, deifies itself. The subjective ego with its only subjective, arbitrary volition is as such still void of contents; the more empty it is in itself, so much the more does it see itself referred to the macrocosmus of the external world, which is in fact one full of contents (§ 91-92); in it the Divine thoughts of the objective-rational laws, veiled, however, in the form of existing things, come to meet the ego hungering, as it were, for a filling with contents; the ego, willingly turned away from God and because it does not cognize God ruling in these things, existent behind them, now holds the world of phenomena, the world of things as such, for the real existing things, for the highest good, for the desirable. Since now the macrocosmic, external world is not recognised as from God, its creative centre, and referred to God as the ultimate end and point of aim of human volition, it thus appears as a disparate multitude of single goods and ends, and so the will, turned away from God, now directs itself to particulars, which in themselves have relative worth, but which are treated by the will that has turned away from God as things of absolute value, as the ultimate, the highest aims of life. The man, alienated from God,—the sinful man,—lives for these ends and aims, which he has arbitrarily fixed for himself (following the one or the other impulse, or the one or the other natural disposition of soul); one lives for money-getting, another for a particular science, a third for sensual enjoyment, etc. Besides, the object striven for as such needs not necessarily be one in itself perverted; but its sinfulness lies in the nature of the desire; things of relative value are considered and treated (loved with the entire soul and by the whole mind and with all the strength) as of absolute value, lower ends as the highest end, *i.e.*, are idolized. This is the World-lust, in which the creatures of the external world are put in the place of God.—Thus now selfishness and worldly lust are not at any time opposite forms, exclusive of each other of the sinful

volition, but the ego, which, as selfish, wills to make itself the centre, herewith and hereby just falls into that inner enslavement to the world; selfishness in itself veers round to worldly lust; worldly lust, in its most peculiar essence, is ever a selfish thing; selfishness in its most peculiar essence has always shown a desire for the things and enjoyments of the world; without this it were void of contents. The ego, which no longer raises itself on high towards God, the eternal-personal, holy-loving One, as the highest goal of its volition, falls therewith into the fate of being obliged to plunge itself downwards in rash, restless, passionate (pathic) eagerness into the world of phenomena, in order to fill its emptiness with a contents, which, however, always remains only a phenomenal contents, since, in truth, the multiplicity of all possible single objects and lower ends is never correlate and commensurable to the ego in itself infinite, *i.e.*, endowed with infinite capacity (§ 89).

Obs.—The will posits its own aims. It is one of the sources of perversity in E. v. Hartmann's system, that he (B. IV.) explains the will as a "reaction or reflex-action upon a motive," resulting with inevitable natural necessity, and consequently, in return, plainly annuls the concept of spontaneity. "Motive" can indeed be nothing in itself given externally; in the concept of motive lies indeed already the concept of that which appears as desired and worthy of desire. What I may pursue as an end, this is to me a motive, for the sake of which I may then also choose the means. (Cf. above, § 45.)

§ 112. *The Originating Ground of Sin and its Possibility.*

The cause of this averting of the creaturely will from God can positively lie nowhere else than in this will itself. Since the evil behaviour of the will is a negation in the privative (destructive) sense, namely, the negation of the behaviour corresponding to the essence and the essential law of man, so again evil itself cannot enter in consequence of a law, neither of an ethical law nor a law of natural necessity. Sin is the behaviour of the will of the creaturely (created) personality,

opposing the unified system of the Divine laws, embracing nature and mind. Sin is an actual thing, but not a thing corresponding to the idea, but that which is contradictory to the idea (the essence of man and the order of God). There lies nowhere at the bottom of the desire, to wish to oppose the self-will to the Divine will, a positivity of this self-will, an essential contents or rational design, but the cause of the sinful volition lies exclusively in vain arbitrariness as such; sin has no *ratio*; the empty desire of opposing one's own will, as purely formal, without contents, to the will of God, consequently of treating the formal faculty of self-determination, innate to man, as a material one, is its own source (hence then the Holy Scripture very profoundly designates sin as *הבל*, *ματαιότης*, vanity, 1 Sam. xii. 21; Rom. i. 21). Hence the possibility of being able to sin has its cause in the human faculty of volition willed and posited by God, in the spontaneity conferred by God on personal creatures, which is by no means to be separated from the egohood, the self-conscious intellect, because, in truth, the ethical law (§ 103), according to its innermost essence, does not operate by force after the manner of a natural law, and cannot operate by force, but has the freedom of man for its presupposition. If God determined to create personal creatures, this in itself already meant: He determined to create beings endowed with free-will, in whom the possibility of sin would be existing. Since God has willed man, He has willed the possibility of sin; the actuality (the becoming actual) of sin has, on the contrary, its cause not in God, but alone and exclusively in the will of the personal creature.

§ 113. *The Collective State of the Human Race is a Sinful State.*

The thesis developed in § 111–112, concerning the essence of sin, follows *à priori* from the acknowledged essence of God and of man. Now if we turn back to the objectively given,

historical actuality, to the actual state of the human race, and if we measure the same by the theses obtained in § 101, 107, and 109, on the one side, in § 111–112, on the other side, concerning the essence of good and the essence of evil, one's own conscience and experience will say to every one who has not been blinded, that, as a matter of fact, the actual condition of humanity does by no means correspond to the ideal of the normal behaviour developed in § 101, 107, and 109, but the more strikingly to the portrait of the abnormal, sinful behaviour delineated in § 111–112. We see around us every day the cheerless conflict of worldly lust and selfishness, and every one of us is with his inner being drawn into this conflict. We not only find: sinful behaviour occurring within humanity, we even find: a universal state of the diffusion of sin. Sin manifests itself in the world as a historical power, for which thesis we can quite simply refer to the prevalence of heathenism in the world, or yet more generally to the prevalence of false religious systems in heathenism as well as also within "Christendom." We find Polytheism, spread among a large majority of the human race, which personifies single natural powers or natural bodies—sun, ether, moon, sea, thunder, the generative power, etc.—as deities, or traces back the gloomy, pernicious powers of nature to evil spirits, and in slavish fear worships these as deities, and which (in both forms) shows itself degraded to the standpoint of the one-sided world-consciousness, by no means raises itself to that of self-consciousness, has no presentiment of the fact, that man carries in his own breast a something which is more divine than those powers of nature. We find with single Gnostic schools a Dualism, which permits the conflict between the ego and nature, mind and the corporeal world, to remain unsolved, as absolutely eternal. Finally, we find with single ancient and modern nations of culture, as a religion (Buddhism), and within "Christendom" that has apostatized from Christianity, as a view of the world, Pantheism, presented already in detail in § 82 f., which rests satisfied with an

abstract, seeming solution of the antithesis of the world-consciousness and self-consciousness. (It is evident, that to these three classes of pseudo-religious systems, the three pseudo-moral systems, presented in § 108, exactly correspond.) Now it follows already from what has been said in § 103, that the roots of these systems are not of a theoretic kind; the theoretic premisses for the knowledge of the personal God are indeed given in every man with his essence. The roots of those systems can only lie in the will. The will, averted from God, entangled in worldly lust and selfishness, involuntarily theorizes for itself, instead of the holy God, a god or a system of gods or a "view of the world" with which the sinful direction of the will is compatible, a religion, which is absolved from the ethical law and causes no more unrest to the man through the demands of the ethical law. And then upon the basis of these views of religion and the world arise those pseudo-moral, irreligious systems (§ 108). The separation of the worship of superior beings and ethics without religion, is the chief characteristic of heathenism and of every false religion. They have no longer a holy God. (A) The root of Polytheism is sin appearing in the form of worldly lust, selfishness losing itself in worldly lust, which is directed solely to the finite goods and joys offering themselves in nature, hankers after happy days, rich harvests, preservation from evils, consequently has essentially eudæmonistic characteristics. (B) The root of Dualism is sin appearing in the form of selfishness as of a conscious sin; the selfish direction of the will, combined with a reflective self-apprehension of the ego in its antithesis to mere nature, leads to that intellectual pride, where the ego no longer seeks in itself the origin of evil, but solely in "matter," and, just on this account, also arrives at last from intellectual, moral principles at the consequence, that it, the intellectual ego, can in no manner be defiled by material enjoyments falling in the sphere of worldly lust. (C) The root of Pantheism is the excuse of sin as such. The entire province of the will is shoved aside

as a secondary matter, subserving only the development of being becoming conscious of itself, consequently, that of knowledge. The antithesis of good and evil is valid only as one of the phases of the development, which the impersonal absolute has to pass through; evil is a stage of development just as necessary as good; the becoming actual of evil is a necessary member in the chain of the process of rationality, and thus evil itself is rational, *i.e.* in conformity to reason; "all actuality is rational." The ethical antithesis is not the highest which there is for man, but one entirely subordinate; "absolute knowledge," consisting therein, that neither the subjective nor the objective absolute attains in man to the knowledge of itself, is the absolute end for which evil as good are only the means, the idol, to whose service sin also belongs. Now in pantheism, pseudo-religion is, of course, immediately identical with pseudo-morality, and yet it is a religion without morality—because this morality is the negation of all morality—and a morality without religion—because this religion is the negation of all religion (inasmuch as "the resolution of religion into philosophy" is openly asserted by pantheism as an object that has been attained).

B. SIN IS A POWER ENSLAVING THE INDIVIDUAL.

§ 114. *A Problem: The Will of the Individual is free and yet not free.*

If this historical fact is established, not only (§ 110) that there is no individual in whom conscience has not manifested itself as accusing, but also that those pseudo-religious and pseudo-moral systems and views of the world, explicable only from the turning away of the will from God, have attained a universal acceptance and authority, and exist as an historical power in the world, therewith a problem is given to us which requires a scientific solution. According to § 103 and § 112, sin has its origin absolutely only in the will of the personal creature.

This will, however, is no collective will of the human race, but the single will of the single, personal individual, since, in truth, every man has his own free will. Now, according to this, we should expect that among the many millions of men there might be a number with whom the will had determined itself to evil, and another number with whom it had determined itself to good. Experience, as has been said, contradicts this. There is none whose actual ethical state would correspond to that ideal developed in § 101, 107, and 109; on the contrary, we find that sin in the form of pseudo-religious and pseudo-moral systems plays in history the part of a universally predominant power, whose dominion the individual is not able to avoid (one single condition excepted, of which we have to speak, Sec. 3). Now how does this accord with the thesis, that sin has its origin in the free-will of the single personal individual? Is the will of the single individual to be free and yet at the same not free?

§ 115. (a) *Sin, a Pathological State of the intellectual-bodily Organism of the Individual.*

We come near the solution of this problem when we notice, that we have spoken, and have been able to speak, in the foregoing paragraph of an ethical "state" of the single individual. "Ethical state"—what does this mean? A state is something given and permanent. Even the bare possibility, that we can speak of the ethical state of a man, has for its presupposition that the will of man, though free self-determination, nevertheless, is in the position to give itself a permanent quality—be it a good one, be it an evil one—and consequently through a decision once formed to bind itself for the time to come, to limit itself in its own freedom. The simplest observation teaches us, that the will, though free self-determination, nevertheless is by no means absolutely independent of its own earlier decisions, that rather a decision of the will now made continues to operate, and indeed, until a

certain degree, continues to operate determinatively, upon all following decisions of the will. And what empirical self-observation teaches, also permits of being explained and proved scientifically. We here enter the important scientific domain of the pathology of sin. Sin, as an averting, happening but once, of the will from God, while it disturbs and deranges the normal (according to § 109, comparable with "health") relation in the intellectual organism of the individual, induces a sickening, and as in the body the sickening of one organ draws another organ into fellow-suffering, so and in yet much higher degree the abnormity of the will, in the much more unified organism of the intellectual powers and functions, operates throughout the entire intellectual organism according to definite pathological laws.

§ 116. *The à priori Limit to the Freedom of the Will.*

Now in order to discern strictly and scientifically these pathological laws, the question, as a preliminary inquiry, is indispensable: Whether the will as such (without regard to its ethical decision for good or evil) has according to its peculiar essence and concept a limit to its free self-determination? And what? There is only one such limit; this, however, follows from the essence and concept of volition as a thing entirely self-evident. The will is free self-determination, but it is always free only in reference to what is yet to be decided, consequently future, never in reference to what is already past, and therefore already decided. To will still to decide what has before been already decided would be a logical *contradictio in adjecto* (exactly as: to will still to beget an already begotten man). The will (§ 45) is the positing of a new causality; no causality, however, has its effect before itself, in the past, each has its effect either contemporaneously or after itself. What therefore has been already decided in the past cannot be first decided by a present volition. Standing before a deep pool I have the freedom either to jump in, or nicely to

remain without; if, however, I have once jumped in, I have no longer the freedom, either to jump in or to remain without, but only still the freedom of choosing to remain therein, or of deliberating on the means how I may come out again. I have the freedom of choosing either to know or not to know what is in a letter which a friend is ready to give me, *e.g.*, concerning the manner how a brother of mine has died, is situated, and accordingly to read the letter or give it back unopened. If, however, I have once read the letter I have no longer the freedom, whether I may choose or not, to know its contents; if I have read in the letter that my brother is burnt alive in a conflagration, I must put up with the horror over this news as an effect.

Every act of will, in causing change, operates as a beginning of a series of causalities, be it upon the state of objective things (inclusive of my own body, which, according to § 91, is also an objective thing), be it upon the inner state of my intellectual - psychical organism, and by every such effect that has happened the sphere of free choice is narrowed; for all that which has effectuated, consequently has become actual, and is decided, now falls no more within my choice, is no longer an object for the decision of the will.—The truth, that in reference to what has already been decided, no decision of the will any longer takes place, is so undeniable that it directly appears as trivial, and yet it has been left unobserved for centuries together; and it has not been understood of what decisive importance it is for the solution of our problem. We have to put the question: What effects has but one decision of the will for evil?

§ 117. *First Pathological Effect of the Evil Volition upon the Individual: The Displacement of the Aims of Life.*

Let us imagine some one man who up to the present moment had stedfastly loved God, consequently had corresponded to the ideal of § 101. But now his will produces

that desire : of wishing once to make use of its formal freedom of decision for the contrary decision, for the turning away from God ; he once wills to be his own god, to be a centre. He therefore, since he wills to be a centre (§ 111), makes some one good of the macrocosmic world his idol, *i.e.*, the ultimate, the supreme end and aim of his volition ; the good (be it sensual pleasure, be it money, be it dominion, be it theoretic knowledge) he wills to get and acquire at any price ; for this relative, creaturely good he now lives. Forthwith the totality of subordinate ends is placed at the service of this one end raised arbitrarily to the throne ; for the subordinate ends indeed (§ 45) stand to the ultimate end in the relation of means. That first decision of his will, therefore, immediately calls forth an entire series of further decisions of his will, and since that was related (destructively) to the central relation of man to God, so now herewith all subordinate relations of life are also immediately and directly moved from their equilibrium, and false, arbitrary scales established in the abstract. To give a true concrete example : as soon as a man begins no longer to set God, but money, as the highest object of his volition and love, even love of neighbour, honesty in action and conduct (as far as eudæmonistic motives do not still give the respite of a false existence to the same), liberality, and beneficence decay¹ with the love of God. The one evil decision of the will formed in reference to God draws after itself whole series of perverted and morally evil decisions of the will. The first decision therefore has had an effect, here an internal effect : the displacement of the moral ends and measurements of worth ; this displacement is a fact that has happened ; in reference to this the will is no longer free ; the false aim of life is one given to it (though given by itself, it is, however, given) ; it is now no longer free from sin, but only still free in sin ; a multitude of individual resolutions now lie under its choice ; it may choose freely between the means by

¹ The psychological infinitely profound narrative of Jer. Gotthelf, *Geld und Geist*, may serve as a more detailed commentary.

which it desires to reach those subordinate, single ends, all which themselves in return serve also as means to the principal end posited arbitrarily, in those instances, to the desire of becoming rich, the deification of mammon. Whether by application of a natural gift (*e.g.*, as an opera-singer), whether by gigantic labour, whether by sly cunning and stock-speculation, whether by larceny and murder-robbery, it may will to reach that supreme end, therein is it in the first place still free, until, by further individual decisions following, the circle of choice is here narrowed even more and more. He, *e.g.*, who has once chosen the career of a banker, and become a banker, is thereby now bound to this one form of money-making—whoever has become a manual labourer is bound to this other form. If it is the sin of mercenariness which both dominates and has also determined your choice of a life-calling, that will be subservient to the same sin under another form of life than this. He who has once become a banker, has abandoned the freedom to earn money as a tradesman. This limitation of choice, however, is a purely formal one, and would take place even so with a pious, nay, with a sinless man; in it the general law only comes to light, § 116. On the contrary, that displacement of the aims and measurements of worth is of material significance for the solution of our problem.

Obs.—E. v. Hartmann (*cf.* above, § 111, *Obs.*) has plainly started from the knowledge of the sinful state of humanity as actually given, and has thus come to the false thesis of the absolute non-freedom of the will, namely, the becoming determined of the will by “motives.” The relative truth of his assertion is this, that when man has once determined himself to sinful aversion from God, and when his will has once chosen relative goods for the ultimate, the absolute aims, then the will in its choice of means is so far determined by the aims once posited that it has only to choose between the means which subserve the aims posited. Hartmann fails doubly, (*a*) materially, since he takes that, which is depravation, as the original essence and as the rule; and (*b*) formally, since he not only allows the circle of means, between which the choice lies, to be determined by the ends, but (*a*) allows the single means

as such to be absolutely determined by the "motive," *i.e.*, by the end; and (β) holds the "motive" (cf. § 111, *Obs.*) as something approaching externally near to man, whilst it, nevertheless, consists in the aim posited by the will itself.

§ 118. *Second Pathological Effect of the Evil Will upon the Individual: The Consciousness of Guilt.*

The influence of the decision of the will directed against God upon the whole province and system of design-setting is consequently a chief ground of explanation, why the evil will exercises upon its own future decisions a determining influence limiting its freedom of election. But therewith the problem of § 114 is not yet entirely solved. That effect, however, will only last as long as the cause lasts; as long as man remains with his will averted from God, as long as he permits a relative good to be his ultimate object, so long will his positing of subordinate ends (because determined by the highest end) be a perverted one. But how, if even this man, who had turned himself away from God, and had thereby entangled himself in a system of perverted end-setting, should reflect upon himself and on his obligation, compare his present state with his earlier, and attain to the decision, now to permit God again to be the ultimate end and supreme aim of his volition? In that first pathological effect (considered § 117) there lies nothing which could hinder him thereto; the highest end posited operates determinatively and bindingly upon the lower ends to be posited; but whether the freedom dwells in the will of permitting an alteration and a change to enter in the positing of the ultimate end itself, nothing at all as yet follows from § 117 concerning this. But now the evil decision of the will has, beside that first pathological effect, still a second. It acts not merely on the system of ends which we set; our behaviour toward God acts also directly upon our relation to God. The demand of the ethical law stands immoveably still, whether our will is adequate to it or not; and in the latter case it asserts itself

as that (considered § 106) evil conscience, *i.e.*, as a feeling of the state of inner dissatisfaction and distraction, as a consciousness: of having fallen into discord with our nature. But in this feeling the power of Him who has placed this ethical law in our nature, who has created and organized us as ethical beings, makes itself immediately known (§ 105-106). We feel as in discord with ourselves so in discord with God, and indeed in a discord whose cause lies in our will, our self-determination. In the manifestation of the ethical law, in the "voice of conscience," a damning (condemning, pronouncing guilty) judgment (*κατάκριμα*) is passed by the Author of the ethical law, by God, on our evil volition opposing the divinely-willed law of our nature, and thus we feel guilty before God, are conscious of our guilt, *i.e.*, of the incongruence of our volition with our obligation, namely, with our essence and destination willed and posited by God. But now this consciousness of guilt is a painful thing, and thus the attainment of the knowledge of God is painful to the sinner. (The "consciousness of God" is "affected with the feeling of disagreeableness," which, however, is not, as Schleiermacher thought, the cause, but the consequence of the sinful volition.) God manifests in the punitive conscience His will as negating and condemning our will. The feeling of the evil conscience, therefore, is one impugning our evil will, and consequently there is an antagonism between that feeling and our will alienated from God, and then this will also impugns that feeling, and seeks to negative it, to bring it to silence, to shake it off. In the energy of this antagonism it becomes impossible for the will to determine itself for love to God. Love to God becomes impossible; instead of it there begins a flight from God. (*a*) Love to God becomes impossible; the sinner feels that there is no longer innocence between him and God; he goes as much as possible out of the way of the painful thoughts of God (as Adam hid himself among the trees); consciousness of guilt and (servile) fear stand in the way of love to God; a free, childish looking up to

God is no longer possible, and this is the cause that man, if he has once turned away his will from God, cannot at pleasure now turn again to God. God is no indifferent object, no post, from whom you may at pleasure withdraw, and to whom you may draw near again; He is a power which manifests its will to man immediately in the essence of man; man has in volition placed himself in hostile tension with this power, he thus, in the discord between his volition and essence,—in this rent yawning down to the lowest depth of his being,—immediately feels unhappy, and God, his Creator, as the power punishing his volition with unhappiness. Why is it painful to him to think of God? God is felt as a judging power; with this sensation of uncomfortable anguish before such a dismal power the determination of the will for love to God is absolutely incompatible (cf. 1 John iv. 18). (b) Rather does the sinner seek with the torturing thoughts of God to become free even from the ethical law itself. He wills sin, it is true; of course he does not will it in order that he may be reprovèd (condemned, ἐλέγχεσθαι); he wills to be unmolested and unhindered in its commission, seeks therefore to shove aside the disturbing voice of conscience, while he excuses his sin, grants himself a letter of indulgence, forgives himself that which God condemns. It is sin which makes men self-righteous. And here now lies the innermost root of those pseudo-religious and pseudo-moral systems which we have become acquainted with (§ 108 and 113), and by means of which sin continues to operate beyond the particular individual upon the whole race.

§ 119. *Third Pathological Effect of the Evil Volition upon the Individual: Corruption of the Psychico-bodily Life.*

Nevertheless, before we pursue further this macrocosmic operation of sin upon the entire human race, we have first still to consider a third effect, which the God-estranged decision of the will calls forth within the individual micro-

cosmos, and in consequence of which a continual operation and a becoming substantiated of evil enters. The psychico-corporeal or psychico-physical life of man (see § 67) continues, because it is one elapsing involuntarily with necessity according to the natural laws ordained by God, to go on its God-ordained course without deviating from the direction which the conscious will in man has taken. Now, by those laws the reciprocal action, entering with natural necessity between psychical excitations and their physical sequences, is determined and regulated. It is, *e.g.*, regulated (*a*) that by enhanced vivacity of the psychical disposition the quickness of the circulation of the blood is enhanced (§ 76), that by psychical agitations the nerves not only are momentarily irritated, but are, as it were, exercised in their general, habitual irritability, consequently become more irritable, and that definite psychical affections and excitations act in a manner exciting irritation upon definite nerves or ganglionic knots (*e.g.*, anger upon the nerves of the gall-bladder, sensual phantasies and thoughts upon the nerves directing the muscles and through them the blood-vessels of the sexual parts, etc.); and again (*b*) that definite, separate, irritated organs of the body react, in soliciting and thirsting, as it were, after fresh irritation, upon the soul, the phantasy (representation), and through these upon the will. All these natural laws of the organism are as such good and necessary; they are ordered for a normal behaviour of the will, and, as it were, are calculated for this; in the case of such a behaviour they serve for the preservation and health of the psychico-corporeal life (as for the propagation of the race). But all these laws, because ordained by God, are independent of the human will, have consequently an objective natural existence, remain in force and activity even there, where the free behaviour of the human will has become an abnormal one. Even there the nerve organized once for irritability remains irritable and reacts incentive upon the soul; and now when it is over-irritated in consequence of

abnormal volition, it will act in an abnormal manner (not in relation to its organization, but in relation to the harmony of the psychical-corporeal and the intellectual functions). Even there, those laws of the circulation and distribution of the blood, of the nutrition of the organs, of the formation of the brain and skull, remain; in short: even there, the psychical life of the personality projects and substantiates itself in the formation and continual regeneration of the corporeity. But now in consequence of this, the corporeity must, because it follows the intellectual-psychical life, according to the divinely-ordained law of nature, and is determined by the same, necessarily become an abnormal one there, where the intellectual-psychical life has become an abnormal one. In consequence of that haste wherewith in worldly lust the selfish will precipitates itself upon some one relative, earthly good (§ 111), some one desire is raised to passionate excitement; by this excitement the brain (as an organ of "conscious," *i.e.*, of reflective thought), together with the nerves, is irritated in a definite direction, and over-irritated by repetition, and thus then brain and nerves, on their part, again react incensively upon the intellectual-psychical life; so that the man, even without willing it, is at last irritated by his corporeity as such to single definite evils. Especially does this strikingly take place with sensuality, drunkenness (above all with brandy-drinkers), opium-eating; but it needs not necessarily be absolutely a sensual (*i.e.*, directed to irritations which are mediated by nerves of sensation) desire; even a purely intellectual, sinful volition (as covetousness, passion for gambling, for power, for honour) may raise itself in the brain-life to an habitual irritation (which automatically excites in consciousness certain series of ideas and representations, and plays the same incessantly on the organ, as it were, before it). This bondage of the will to the corporeity we denote by the word: vice; and when it proceeds from an already acquired, morbid disposition of the brain, or when it leads to the incapacity of conscious, rational volition, we psychiatrically denote it as

“moral insanity.” (To establish firmly the boundary between both in the concrete case is often difficult.) From the heart, indeed, come evil thoughts; in the evil will they have their origin; but they then settle as a psychico-corporeal propensity, and at last reign as vices over the will.

Obs.—In this fixing or substantiating, therefore, a natural law, ordained by God and good in itself, becomes one operating corruptively. We may make this clear to ourselves by an illustration. A piano is an instrument constructed with design, in which the natural law of the elasticity of the metallic chords and of the metallic springs, the laws of the lever, of gravity, of the non-propagation of vibrations through felt or woollen-texture, of the propagation and strengthening of the same by a thin layer of wood (sounding-board), and so forth, are employed as means for the purpose of producing melodious, harmonious, euphonious tones. If, now, a skilled and judicious piano-player sit down at the instrument and play upon the same, he then also proves for himself, as a matter of fact, the designed, skilful construction of the latter. If, however, a drunken person or a rough wanton fellow come and strike with his fists upon the keys, those natural laws of the lever, of tension, of elasticity, and so forth, do not, on this account, alter themselves in the least; the keys now also operate as levers; the chords retain with their elasticity their former capacity to bear a certain degree of tension; but just in virtue of these laws continuing to operate unchanged the blows of the fist, which the rustic brings down on the keys, produce shrill, discordant tones, and eventually a smashing of the hammers or a rending of the chords, but, at any rate, a putting out of tune and injuring of the instrument, whereby the same becomes useless for a piano-player.

§ 120. *Fourth Pathological Effect of the Evil Volition upon the Individual: The Blinding of Cognition.*

We have seen: the evil decision of the will that has but once happened, acts (1) in an enslaving manner upon the will itself, as far as it not only formally limits, but even materially influences the sphere of the succeeding decisions of the will through displacement of the life-aims; it operates (2) in binding and hindering the return to the love of God through the originating consciousness of guilt; it acts (3) corruptingly

upon the corporeity, since definite sins substantiate themselves as irritation, propensity, vice. Now from both the first moments there follows indeed simultaneously, that (4) also a corruption of the noetic side of man, namely, a blinding of cognition, takes place in consequence of that displacement of the moral ends and measurements of worth, and in consequence of the inclination to the excusing of evil, and herewith to pseudo-moral and pseudo-religious views. Now this error of cognition also reacts in turn upon the will. Indeed every sinful action is one proceeding from the will as such, consequently is conscious and free, and is never a mere mathematical product of general sinfulness and circumstances (so that a man, as soon as he is only not sinless but a sinner, would have to commit with inevitable necessity such and such a sinful action under such and such given circumstances). But as certainly as man, even in sin, has still free will (though none are free from sin), so certainly, therefore (supposing that he is not insane), does he remain accountable for every sinful decision of the will: it is thus correct, that error may take place over the degree of the sinfulness of particular actions (on this rests the distinction in the Old Testament of שגג, "erring," and מעל, "sins of malice;" with the former an *ignorantia juris*, but not *facti*, takes place). But this error has just its ground of origination in the apologizing usually practised for sin. Nay, it may in this way even proceed so far that evil prevails not merely as permitted, but as duty (*πορνεία*, as worship of the gods, was current among the Babylonians, Herod. i. 199; it was a duty among the American Indians to produce a scalp, and the like). If we now summarize all that has been said in § 117–120, we are convinced: that sin, as soon as it has entered even but once as a decision of the will, forthwith operates pathologically as organic corruption of the personal individual, *i.e.*, becomes the permanent sinful state.

Obs.—This organic corrupting is connected even directly with the highly organized nature of man as an intellectual being. A crystal may be injured in one of its corners, but, moreover,

be quite intact. Lower plants and animals, with which an extremely small differentiation of organs is existent, may be injured or mutilated in one part without the other parts suffering. (Let us recall the reproductive power of the lower animals, § 66.) Indeed the more highly organized, *i.e.*, the more differentiated natural being can scarcely become sick in one organ of its body without the other organs being drawn into fellow-suffering. Moreover, with the intellectual-psychical vital monad of man, the central injury, *i.e.*, the perversion of the central relation to God, does not take place without its consequences asserting themselves immediately upon all departments and in all spheres of the intellectual-psychical as of the psychical-bodily life of the individual, simply for this reason, because all these spheres stand in a mutual, reciprocal action ordained by God. (Scholastic theology designates this as the "breadth of corruption," *latitudo vitiositatis*.)

§ 121. (β) *Pathological Effect of Sin upon the Human Race: Influence of the State of the Procreator upon the Will of Offspring.*

That, and why, the sinful decision of the will, the averting of the will from God, has for its permanent consequence a sinful and corrupted state in the individual affected, is now explained. But sin operates still farther; it operates beyond the individual upon the race, upon entire humanity (what Scholastic theology has designated by *universalitas vitiositatis*). In the first place, in the domain of corporeity, that disharmony of over-irritated organs is transmitted to the descendants (§ 119) in the way of procreation and conception, and of the bodily connection of the embryo with the mother, as we have indeed examples in multitudes that a definite sinful propensity to a definite fault or vice, or even a definite one-sidedness of temperament (inclination to sudden anger, or to deceit, or to despondency), is transmitted from parents to children, or from grandparents to grandchildren. (See the *Obs*.) Secondly, the moral errors that have arisen in one generation, the false views concerning that which is the highest end of life, and the pseudo-moral and the pseudo-religious views of the world and the systems growing out of them, continue to

operate upon the following generations in the way of education. But, nevertheless, by both together it is still never hypothetical that the descendants themselves now also become sinful, and would have to decide for alienation from God. If we assume that the new-born man, the descendant, enters into existence endowed with the same absolute freedom of will which his ancestor originally possessed before he had willingly determined himself in turning away from God—if we assume this, this freedom of the will of the descendant would not (a) possibly have been capable of being injured by a mere bodily disharmony. For as yet before this inherited over-irritation or debility of single, bodily organs (nerves, ganglionic knots, etc.) had so far developed itself in his organism, the will, in order to manifest any effect whatever upon the psychical life, would have had long ago—eventually, just when it willed, but then also unhindered—to decide for good; and now, when we see within the province of Christianity in hundreds of converted sinners, that a man, who of his own accord had given himself up to one vice, nevertheless, is in the position, through the power of the will turned again to God (in consequence of redemption), to contend victoriously with the vicious propensity existent in the corporeity and already completely developed: how much more would a will, as yet not at all touched by sin, have the power to rule victoriously over purely bodily irritations which, moreover, are present but only in the germ, and are not yet developed! And so far the thesis of the old-evangelical, scholastic theology is correct: That sin (even that of the descendant) has its seat and origin not in the body, and that the soul becomes not the sinful soul, the will not the sinful will, by contact with a corrupt (disharmonical) body, *sicut vinum in vase acetoso accrbum fit*, (b) but, moreover, a will of a descendant, endowed with intact freedom, and now (eventually) resolving upon love to God, would still far less have been capable of being blindfolded and induced to sin by theoretic errors which prevail in the generation of adults (as little as the boy, Jesus, was blindfolded

and induced to sin by the errors existing among the Israelites), but such a one would possess even in his immediate love for God the armour for the victorious repulse of such errors; in the form of the "good conscience" the Author of the ethical law would make known His power as a power blessing him, friendly to him; false theories of adult contemporaries he would (as long as he had not determined himself of his own will to that voluntary, spontaneous turning away from God, described in § 112, but with his own will would persevere in love to God) dismiss in the power of this beatifying love to God, and it would become true in the highest sense: "What the understanding of the intelligent does not see, a childish spirit exercises in simplicity."—We are, consequently, convinced that neither an inherited bodily disharmony, nor the influence of an environment involved in moral errors, would have an influence, necessitating to the decision of the will in opposition to the divine will, upon a man who might possess his free-will intact, that rather such a decision, when it results, has its origin and its *causa sufficiens* only just in the spontaneous will of the descendant himself.—But empirically it results in all men (and the historical proof of this fact, given in § 113 only in the most general outline, will find in the second part of this book its perfect documentary corroboration and completion). If, now, we (α) actually see sin, in all its forms as organic corruption in the domain of the will, of the impulses, and of cognition, propagating itself from generation to generation, and if (β) this does not permit of being explained from the heredity of bodily disharmony and intellectual errors, on the presupposition of the intact freedom of the will of the descendant, we are (γ) imperatively necessitated to the assumption, that the descendant is already from the moment of his birth lacking in intact freedom of the will, that consequently he already brings with him into the world a God-opposed direction of the will, that consequently the sinful state of the procreator has an influence upon the will of the offspring. But how is this to be made conceivable?

We here stand before the most difficult part of the problem proposed in § 114.

Obs.—The transmission of disharmonically over-irritated, particular organs results according to a natural law ordained by God and good in itself, just as, according to § 119, their origination. For we find quite generally (and not merely where disharmonical peculiarities of the individual are the point in question) prevailing the natural law, that, beside the generic and specific qualities, individual definitudes of parental organization are also hereditary (*e.g.*, physical figure, features, but also talents, *i.e.*, potential organization of particular parts of the brain and organs of sense). According to § 64, it is the vital monad itself which constructs and organizes its embryonal body. If, now, it is herein determined not only by the law of becoming of the genus and species, but, moreover, along with the individual procreative impulse of the parents, particular individual formations and idiosyncrasies of single organs are also repeated, both are not activities of a will peculiar to the vital monad, but in both activities it is bound by a divinely-ordained natural law operating upon it, in it, and through it, in the form of a natural necessity (consequently immanent in it). But now, according to § 119, a disharmonizing of the corporeity is always, and in all cases, the infallible consequence of the sinful will (even where it does not strikingly come directly to light in a heredity of particular, definite, vicious proclivities). A transmission of the harmony of the bodily organism, disturbed by sin, consequently takes place unconditionally in all cases. What more deeply penetrating consequence follows from this comes to be considered later, § 123.

§ 122. *Explanatory Hypotheses.*

In order to make this conceivable—not the Christian Church, nor even this or that Church confession, but different groups of theologians have set up different hypotheses of explanation on the manner, how the soul of man is begotten, in order then to deduce thence the solutions of that problem. (a) The one group, whose series begins with Tertullian and Gregory of Nyssa, has set up a theorem which is accustomed to be designated with the name of Traducianism. *Anima e traduce gignitur, i.e. ex animis parentum deceditur.* The egoistical, personal, vital monad of the child is separated

from the vital monads of the parents by partition; since therefore it consists of parts of the vital monads of the parents, it follows, as a matter of course, that it participates in the qualities, even in the ethical qualities, of the parental monads; the parts in truth necessarily have the general qualities of the whole; in the ego of the child the sinful ego of the father and that of the mother continue themselves directly, each in a part of its existence. But this theorem is, when examined closely, an absurdity, because herein the concept of the monad, while it is posited, is also again immediately destroyed. What can be divided must consist of parts, must be a composite, and then it is not a monad but an aggregate of indivisible particles, of atoms. Traducianism leads to materialism with unavoidable consequence. The vital monad of each of the two parents is to be divisible, and that of the child is to originate by the composition of two such parts. Where then abides the indivisible ego continuing absolutely the same and cognizant of itself in its absolute continuing identity with itself?—You do not avoid that consequence when you, perhaps, assume, the vital monad of the child may originate not through *decisio* of the vital monad of both parents, but through *decisio* of the vital monad of one of the two parents,—be it that in its monadical substance it originates from that of the father and from that of the mother receives only the corporeal materials necessary for the structure of the body, as Apollon in the *Eumenides* of Aeschylus, v. 615 ff. teaches,—

οὐκ ἔστι μήτηρ ἡ κεκλημένου τέκνου
τοκεύς, τροφὸς δὲ κύματος νεοσπόρου
τίκτει δ' ὁ θρώσκων, ἡ δ' ἄπερ ξένῳ ξένη,
ἔσωσεν ἔρνος, οἷσι μὴ βλάβῃ θεός—

or be it, that you might wish to assume, the vital monad may inhere in the maternal *ovulum*, and may only be excited to development by the procreative activity of the father. In both cases you would indeed get rid of the proposition, that

the vital monad of the child is compounded of two parts, but not of the equally senseless proposition, that the vital monad of one of the two parents divides itself into several parts, consequently consists of parts. — (b) The opposite system, Creationism (taught first by Hilarius and Theodoret), assumes, in its genuine old form, that only a body is begotten by the parents, and that into this soulless embryo is breathed by God—with boys 40 days, with girls 80 days after procreation—a soul created for this purpose, an ego. Herein it remains not only absolutely inexplicable, how an ego created immediately (*creatione immediata*) by God can be affected with a sinful state,¹ but the whole theorem is even in itself a senseless one. We have (a) been convinced, § 64–66, that the life and the development of the embryo from the first moment on, with the animal as with man, is by no means conceivable without the existence of the vital monad, which determines the specific kind of the becoming and of the developing, and (β) we have been convinced, § 67, that with man this monad, constructing and animating the body, is at the same time not only (as with animals) a representing monad, but a self-conscious, personal monad, an ego. According to (a), it appears as nonsense that a bodily embryo should develop itself for 40 or 80 days without a vital monad, in order only then to receive one such breathed into it. According to (β), the modern transformation of Creationism advanced by Schenkel (*Dogmatics*, § 19) also appears as nonsense: That by the procreative act of the parents an animal vital monad forthwith originates with the bodily embryo, insouling the same, and that God forthwith creates an intellectual ego, an egoistical centre (*creatione immediata*), and combines or unites the same with that animal monad. Accordingly, therefore, there would be in man two monads

¹ Those whom it should interest to become acquainted with the absurd attempts of explanation, which have been advanced from the standpoint of Creationism, I refer to my *Christian Dogmatics*, 2nd ed. Königsberg, W. Unzer, 1862, part i. § 339–341.

side by side, an animal and an intellectual monad; soul and intellect would be two different substances¹ separable from one another; the ego, perceiving by means of the nerves of sense, would be another ego than the one which thinks in concepts, the consciously willing ego another than the one which excites the motor nerves (for perception and the motion of the body would, since both take place also with the animal, indisputably be acts of the "animal monad"). Finally, moreover, it remains, after as before, unintelligible, how an ego created immediately by God could be affected with a sinful state. You will not therefore deny to this theory of Schenkel the praise that it successfully unites in a superlative degree the faults of both Traducianism and Creationism.—(c) The theorem, advanced by Julius Müller (*Doctrine of Sin*) and similarly by Secretan (*la philosophie de la liberté*, Paris and Neufchatel, 1872), of a pre-existence of the egoistical vital monad, which before the procreation of the bodily embryo already exists, and in this pre-existence has already in free volition determined itself for sin, forms a third attempt of explanation, in which, however, Julius Müller again wishes to see this pre-existence understood as not subject to time. But, although there can occur in us a subjective "consciousness not subject to time," *i.e.*, a not being conscious of the objective lapse of time (according to § 59), nevertheless an objective pre-existence, not subject to time, cannot be predicated of a finite created being; God only is (as follows from § 30 and § 90) not subject to time in the objective sense, not subject to time in His existence. But now, if there is assumed a temporal pre-existence of the individual human soul, and a conscious decision of the will for evil that has been committed in a temporal *prius* before procreation, herewith the

¹ That the Holy Scripture distinguishes in the passages, 1 Thess. v. 23 and Heb. iv. 12, absolutely only an intellectual-psychical life and a psychical-bodily life (in the sense of our § 67) and from both the bodily organisms as such, but by no means admits an animal ego along with an intellectual ego dwelling in the body, I have proved exegetically in my *Christian Dogmatics*, § 215.

province of arbitrarily inventive phantasy, instead of the province of scientific knowledge, is entered. But, moreover, you are entangled with both forms of this hypothesis of pre-existence in insoluble difficulties; firstly, herein is presupposed that the parents generate no human being but only a human body; and secondly, that the pre-existent soul degrades itself from the state of consciousness, which Julius Müller ascribes to it, to that of unconsciousness, and thus makes its entrance into the embryonal body. Now such a declension from consciousness to unconsciousness (in which latter, however, according to § 59, ever only the world-consciousness, not the self-consciousness, presents itself) is in itself absolutely nothing impossible (as even follows from § 59). But now, if (according § 64 ff.) it is the vital monad which insouls the embryo, makes it living and organizes it, the hypothesis of pre-existence leads to the absurd consequence that the parental act of generation is entirely unavailing; for this act of generation would produce a yet non-living, dead, unorganized substance or mixture of substances, which would only become an embryo, *i.e.*, a living organism capable of development and developing itself, thereby that an ego, fallen into sin, enters into it. Without this latter it would be a mere corporeal excrement of the parents! This theory of pre-existence then has not been able even to gain any adherents.

§ 123. *Correct Explanation.*

The correct solution of the problem results as soon as we have gained the correct knowledge concerning the nature of generation as such (with animals as with men). (A) In order not to fall into error concerning the nature of generation as such, we must with all strictness hold firmly the thought that there is no "matter" (§ 62), that all which one names "matter" or "material substances," are only complexes of powers, that all corporeal things are compounded of com-

plexes of powers; further: that in organic, living bodies the vital monad as a central power raises a plurality of inorganic complexes of powers (so-called "material substances") in the way of assimilation and segregation (secretion) to a higher unity, and thus constructs and organizes its body according to the divinely-ordered law of becoming (operating on it, in it, and through it) immanent in it (§ 65); and finally, that with animals this vital monad is a monad continuing itself the same (a subject), but not one cognizant of its state of continuing the same (no ego), therefore only a representing, no concept-forming subject. With man, on the contrary, it is a monad cognizant of itself in inamissible identity with itself (self-conscious), therefore concept-forming, design-setting, as a personality filling itself with intellectual contents (§ 69-72). When now we see the undisputed fact before our eyes, that through the sexual connection of two organisms (with the higher organized animals as with man), each of which is constructed, organized, and insouled, a third homogeneous organism originates, which is constructed by its own—a third—vital monad from so-called "matter," *i.e.*, from complexes of powers (which it raises to monads of lower and middle order, § 66); and when we further know that this constructing, organizing, and insouling of the organism results, not with consciousness, but unconsciously, not at will, but with natural necessity, consequently not according to a resolution of the will of this vital monad, but according to a natural law designedly ordered by God, we are thus impelled unavoidably to the syllogistic inference: That by a natural law¹ posited by God, the Creator, the power is conferred on and dwells in the vital monads of the parents to create in the act of bodily generation, that is, of impregnation, a new vital monad. I say on purpose: to create, *i.e.*, to place out of non-existence into existence (and not at all possibly: to

¹ Hence this law, even with involuntary copulation (*violentia*), becomes active, as far only as the act of fecundating itself (the contact of the *semen virile* with the *ovulum*) thereby takes place.

separate from itself and compound it by Traducianical *decisio*; no! to create it). There is conferred on and lent to the vital monad (of the higher animals as of man) a creative power, within the fecundating act of copulation in a unified act of inseparable co-operation,¹ creatively to call into existence a new centre of life not having hitherto existed, a new vital monad. (It is, moreover, a lower analogy, when, according to § 67, the vital monad of the animal and of man calls into existence in its own organism monads of middle and lower order, or when with plants and lower animals the vital monad calls into existence a monad of lower order, which then — in gemmation — becomes the separate vital monad of a new individual.) Even at bottom of that “creative power” of the vital monad there lies, as is evident, the eternal creative will, consequently the creative power of God (cf. § 91), and for this reason every animal and every man is in fact a creature of God, is created by God; but let it be well observed: not *creatione immediata*, as Creationism assumed, but *creatione mediata*, by a creative power conferred on the creature. This creative activity, conferred on the creature and indeed inherent in the act of impregnating of the *ovulum*, is now designated — just in distinction from the immediate, creative, volitional activity of God with which He has posited the universe in existence—as procreation, *generatio*. The object and result of *generatio*, however, is not (we repeat

¹ Ea vis illa lege naturale imperanti semine verili “immanens” est, videlicet ejaculato quoque (alioquin nunquam efficax esset!). Inde non mirum, si semen, quod Spallanzani et Sims (et multo ante jam hypospadiacus quidam, a Siebenhaar, *Hdb. der gerichtl. Arzneikunde*, memoratus) muliebri vaginæ artificiose siphonis auxilio injecerunt, graviditatem effecit. Nempe, parvi momenti est, num semen ex ipso peni, an brevi ambage per siphonem ad ovulum perveniat, dummodo illa vis creatoria sive generativa, qua Monas individui masculini semen instruxit, ei adhuc insit (quod non diu ei inesse, imo brevi tempore interposito extingui constat). Itaque semini ejaculato nequitiam particula Monadis paternæ (quasi decisa esset) inest, sed huic virium humiliorum complexioni, quam “semen” appellamus, inest vis quædam centralis a Monade paterna ipsi indita, atque talis quidem, quæ cum simili monadis maternæ vi co-operando novæ Monadis autor (sive creator) fiat.

it) a body, but the entrance into existence of a new vital monad, and indeed of one homogeneous to the parents (with the animal, to an animal, impersonal monad; with man, to a self-conscious, personal one). The impregnated ovulum, *i.e.*, the ovulum into which a seminal corpuscle (a seminal particle, a spermatozoon) has entered in order chemically to dissolve itself immediately therein, forms as such only the corporeal material, which the vital monad that has entered into existence needs in the moment of impregnation in order to construct, to organize its body. Without the origination and existence of such a vital monad, the embryonal development of the ovulum now ensuing (§ 65) would be absolutely inexplicable.—(B) If, now, we pass over to the question, whether and how it is to be made conceivable, that (according to § 121) the sinful state of the procreator has an influence upon the will of the offspring, there results from what has been mentioned under A the three inferences immediately following: (a) The human vital monad (which we, § 121, have considered only from the moment of birth on, but now must take into consideration from the moment of procreation on) has in the embryonal period a share in those general qualities of the organico-living subject, which man has in common with the animal, *i.e.*, it unconsciously and without will constructs and organizes its body according to the divinely-ordained natural law immanent in it, as one homogeneous with the parents, *i.e.*, human, and, moreover, also follows just as unconsciously and involuntarily that divinely-ordered natural law (§ 121, *Obs.*), in virtue of which it even reproduces individual corporeal qualities of the parents, and indeed also (caused through the sinful will and state of the parents, in the sense of § 119) the disharmonic qualities in the structure of its own body. (b) It has already in the embryonal period a share in the peculiar qualities, which make man to be man, and distinguish him from the animal. As the human embryo is no animal, but a becoming man, so the vital monad of the same is a human, *i.e.*, an egoistical, self-conscious monad determined

and planned from the beginning for a personal relation to the personal God. The ego is indeed no quality, which only afterwards could arise; the egohood is the substance of the human vital monad. Hence this must be self-conscious already in the embryo, already from the moment of procreation on. This may sound strange and incomprehensible; but we need only recollect what was said of sleep (§ 59), so will all incomprehensibility vanish. We have there been convinced that the man lying in fast, dreamless sleep, although he does not appear at all to have any consciousness, nevertheless is only deficient in world-consciousness, but must necessarily have self-consciousness, and that this self-consciousness has only just the form of a self-consciousness not subject to time, because still destitute of external concrete contents. Exactly so is the vital monad in the embryo a slumbering monad; but it is an ego, it is self-conscious, and has already the power of spontaneous self-determination. In the second half of its embryonal existence it operates already upon the motor nerves, it evokes movements of its members; perhaps these movements are only analogous to the reflex movements (§ 42) of a sleeper, more probably indeed to the voluntary movements of a dreamer. For already before birth (Wundt, *Handbuch der Physiol.* § 222) the vital monad begins to have "perceptions of the sense of touch and of the feeling of innervation;" already before birth therefore beginnings of the world-consciousness (of the consciousness of things objectively existing, to which indeed belongs its own body and that of its mother) take place, and consequently the beginnings of self-consciousness are no longer without an object, and, for this reason, no longer also without being subject to time. According to this, then, those movements of the members of the embryo do not even allow themselves to be claimed as proceeding from the will. (c) Thirdly, finally, the human vital monad in its embryonal period, because it has its existence from the monads of the parents, shares in the qualities that have entered through the

decision of the will of its progenitors, which distinguish the sinful man from the sinless according to his state. If the vital monads of the parents are no longer in possession of absolute freedom of self-determination, they will also not be able to call into existence a vital monad of the child, which would be endowed with absolute freedom of self-determination. Rather does a settled injury of the free-will of the vital monad of the offspring take place. (α) The will existent in the latter, as a power, already receives in the moment of procreation (of the "creation" of the vital monad) an impulse, which gives to it, apparently still unconscious, but in truth already self-conscious, a selfish direction, and therefore contrary to its destination toward God. For the act of procreation is with sinful man a selfish act. In itself it would not be this; for man is organized for sexual propagation by the Author of nature, consequently by God (with which also the Holy Scripture agrees, Gen. i. 28; Matt. xix. 4 f.). Corresponding to the essence of man and the ethical law (§ 109), the natural impulse of sexual desire would not be permitted to rule without control, but would have to subserve the ethical, personal inclination and love (§ 97, *Obs.* 1); the sexual copulation would have to be in an analogous manner a dispassionate expression of the ethical love of spouse, as, *e.g.*, a shake of the hand is an expression of friendship; the man would have to be animated not by animal impulse, but by love. This normal behaviour corresponding to the idea, however, is now altered through sin. There has here entered a palpable corruption of the nature through guilt of the human will. With the animal, copulation results according to a natural law, because in the regular times of the so-called "rutting-season;" with man no such natural law predominates; instead of it, the will should govern; instead of it, the representation, the phantasy, has received and attained influence on the nerves directing the sexual parts and the sexual acts, and the will submits and lets them have their way. (Hence the feeling of shame,

this immediate reaction of the essence of man against that subjection of the will, unworthy of the personal being, under the rebellious lower nature.) And thus the indisputable fact results, that even there, where not bestial-sensual desire, but personal inclination and love, where, in truth, honourable love is the first impulse to the act of copulation, that ideal, even in the most favourable case, remains unattained,—not less, indeed, with pious Christians who have experienced in themselves the sanctifying power of redemption,—that rather a surplus of sensual lust ever also presents itself, which is not purified in the bodily expression of ethical love. That energy of the selfish will, averted from God, always makes itself prevailing in that act as a state, which precipitates itself with passionate, because selfish, worldly lust (§ 111), into enjoyment. This selfish act, affected with sin, gives to the new vital monad its existence. That the will, originating in it and with it as a power, may forthwith receive in its origination the impulse of a selfish direction, is certainly as conceivable as that this will steps into existence with the indifference of absolute freedom. Nevertheless (you might object) this mere “conceivability” involves only the possibility of what is asserted, and not a proof for the same. The latter is produced when (β) it can be concretely proved, how and in what manner the sinful state and the procreative act of the parents, infected with sin, may operate as an impulse upon the direction of the will of the generated ego originating as a power. Now the young vital monad (see under α) is necessitated by a divinely-ordered natural law to reproduce in the construction of its body even the disharmony of bodily organization (above all, that of the organs of the brain and nerves, § 119), which is unconditionally existent with the parents in consequence of the sinful will and state. Thus it already exercises unconsciously an activity, which formally is a divinely effectuated activity, but in contents (through guilt of the progenitors) is opposed to God. The consequence is, that the young vital monad, growing up into consciousness (self-

consciousness), finds itself in a state not corresponding to the essence and destiny of man, and thus there exists already in the man becoming conscious that feeling (§ 118): of being in an existence which does not correspond to the obligation willed by God, as a painful, congenital feeling, it feels the will of God, which, in its essence, manifests itself immediately as the force of a demand (§ 104), as a feeling, opposed in a condemnatory manner to its actual existence (state), hostile, awakening only fear, consequently excluding the loving turning toward God; and thus, then (conformably to § 118), the will is forthwith determined in the habitual inclination to go and withdraw itself from its obligation, from the ethical law, and out of the way of the Author of the same, consequently in the inclination to alienation from God. And, indeed, this inclination may complete itself already before the awakening of reflective thought, and without such, in the form of unreflected (according to § 54 ff.), but not, on this account, less intellectual and self-conscious opposition of the will against the consciousness of a settled existence (state) not corresponding to obligation, making itself prevailing as a power in the form of conscience. This development here given stands absolutely in no contradiction to what was said in § 121, *a*. There we have proved, that if a will having already decided for love to God should exist in a man along with the bodily disharmony, one such could not be transformed into an evil will by that disharmony; here, however, we have demonstrated, that, and why, with the given state of such settled disharmony the originating, growing will cannot resolve upon that loving turning toward God. Herewith has the problem of § 121, but therefore also the more comprehensive one of § 114, found its complete solution. Through sin the will itself is enslaved and enslaves the wills of the descendants. And indeed this solution of the problem results in conformity to the formal fundamental law, taken cognizance of in § 116. This will is free self-determination, but ever only free in reference to what is

future; in reference to what has already been decided there is no self-determination. For the newly-begotten man it is now a result plainly decided already, no longer belonging to the future but to the past and present, that he has entered into existence in the totality of his intellectual-psychical and psychical-bodily organization, has entered into a state, which does not correspond to the true essence of man and to his true destiny and consequently not to the will of God, and that especially his will, when first it was only a power of self-determination, nay, when, as such a power, it first entered into being, already received simultaneously with its being the impulse to flee from God, consequently the impulse of the selfish inclination. Therefore the question by no means arises to the man begotten by sinful parents, whether he will be begotten in a sinful or in a sinless state and enter into existence; this question, as a matter of fact, is already decided; for if he once is (exists), he is already begotten. In reference to this question, therefore, no self-determination, consequently no freedom of the will, at all takes place. The child, which is begotten of sinful parents, finds itself already, from the beginning of its existence on, in the same sinful state (§ 117-120) as a man who was created sinless, but who resolved with his will (§ 112) upon turning away from God, and has thereby been brought into that state. The will is only free within the sinful state, free in sin (§ 116), *i.e.*, free in the choice of single ends, of single means, of single resolutions, but further also free in the decision, whether it will yet attend and listen to the condemnatory, ethical law, to the punitive voice of conscience, consummate the consciousness of guilt or saucily excuse the same, *i.e.*, whether it will at least mourn over its sinful, God-estranged state, and long after deliverance from the same, or whether it will lightly and impudently excuse sin. (Cf. Rom. ii. 7, 8.)

Obs.—Here now follows also the important distinction between the concept of guilt and that of responsibility. The latter refers to the antithesis between volition and ability, the former to that

between being and obligation. For this, that he is born as a sinner, no man is responsible, for this lay not within his choice; he could not enter otherwise into existence, as it was conditioned by the author effectuating his existence, *i.e.*, procreating him. But nevertheless he has the consciousness of guilt, *i.e.*, the consciousness that his state, his actual being and the direction of his will, conditioned hereby pathologically, does not correspond to his true essence and, in so doing, not to the will of God, that consequently between his being and his obligation a contradiction exists. The consciousness of guilt, therefore, is not absolutely to be limited to the consciousness of responsibility proper; it corresponds rather, on the spiritual-ethical side, to that which, on the side of the bodily life, is the feeling of sickness. A child, which has inherited from its parents tuberculous lungs, is sickly and feels sickly, though the origin of its sickness lies not in itself. So the man, who has inherited the sinful state from his parents, feels himself in discord with the demand of the ethical law, and consequently in discord with his own essence as with the will of the Creator, and this is the feeling or consciousness of guilt. Not to correspond to the demand of the law means: to be guilty (*reum esse*) before the law and before its Author. From the modern expression "being guilty of something" in the sense of "being the cause," moreover, we must turn away, and it must be permitted. The primary meaning of the Old High German, *sculd* and *sculda*, is: "obligation, duty," and the next meaning, occurring also already in Old High German, is: indebtedness toward an obligation, lagging behind a duty, *e.g.*, insolvency over against a monetary claim, which insolvency may be brought on through circumstances for which the debtor is by no means responsible.

§ 124. *Pathological Collective Effect of Sin: The Development of Humanity becomes Entanglement.*

As sin penetrates and infects organically the microcosmos of the individual (§ 117–120) in all its sides and spheres of action and powers, so now, in consequence of that continual operation upon the posterity (§ 121–123), it infects and penetrates organically also the macrocosmic, historical, collective life of the race in all its sides, and thereby transforms the historical development of the same into a continual entanglement. The proof is easy to be furnished; it is sufficient briefly to recall the most essential factors of that entanglement. Where, in

consequence of sinful unchaining of the sensual instinct, the woman is no longer an object of ethical, personal esteem and love, but of sensual desire, there the essence of the family is destroyed through polygamy, concubinage, and *πορνεία*. Where the enjoyment of earthly goods (and earthly possession as a chief means of the same) is raised to the highest aim of life, there the lawful relation of civil society is destroyed by dishonesty or by gross or refined violence, which puts itself in the place of law. And when with worldly lust its mother, selfishness, inseparable from it, reigns in hearts, tension enters into the social relations—a tension between masters and slaves, nabob and labourers worn out like dogs; moreover, the distinction between actual slavery and the so-called Manchester-system is only a formal one; essentially it is this, that the one man treats¹ the other not as a self-end but only as a means, not as a personality but only as a thing and “goods,” i.e. as merchandise. All these, and other perversions of ethical order, co-operate towards the perversion of the public life. As the ethical law, given with the essence of man and identical with the same, demands the free subordination of the human under the Divine will, so it demands also, that among men those, who in the divine arrangements have yet to learn, the young and those who are still ignorant, inexperienced, and without discernment, subordinate themselves to those who are set over them as teachers, promulgators, and bearers of the divine will. (This is that primary relation of authority which is expressed in the fifth commandment of the decalogue, Ex. xx. 12, and which the Holy Scripture has in sense, when it designates the earthly authority as *elohim*, Ex. xxi. 6, Ps. lxxxii. 1 and 6.) Thus the parents are the

¹ Many a one, who is accustomed to acquiesce thoughtlessly in the phrases of the day, “progress and development,” may perhaps turn up the nose over the thesis laid down, that the famous development of humanity has through sin become an entanglement. But, then, do not the public papers of all shades speak publicly of the “development” of the “social question”? And would there not be such a social question when, instead of selfishness, Christian love should rule?

organs of God and the bearers of the Divine authority for the children, so the tribal head or patriarch for the tribe, so the king (as the supreme judge) for the people. There is now an ethical demand that these authorities do not bring their own but the Divine will into acceptance, and again, that their inferiors, from beneath up, do not determine what is right and what is lawful, according to their arbitrary pleasure or foolish lusts and clamouring for great accumulation of wealth, that rather those determine what is right and wrong according to the will of God, and hence also seek to discern what is lawful in every given case, and to find the right, and these subject themselves in free moral will to the authorities as the bearers of this historically developed legal wisdom (jurisprudence). Through sin this entire relation is perverted into its opposite. Parents educate their children not in and for the fear of God, but misuse them as objects of their vanity¹ and avarice; children do not entertain toward the parents love and reverence. Rulers misuse the people as means for the gratification of their selfish desires, and the people rebel against their rulers, and labour continually towards that democracy, in which, according to the principle of capitation or *égalité*, two cubic inches of hairs or foot-nails or fat have the same warrant for co-operation in the legislature with two cubic inches of brains (by which the distinction, whether the external constitution of the State has a monarchical head or is republican, is more a formal than an essential one). In heathendom we see all these consequences of sin developed in full bloom; even in the cultured States of antiquity the political development ran its course on the line of misused patriarchal kingship through despotism and aristocratic republic to democracy and ochlocracy, from which the new despotism was developed. But

¹ If we were not here obliged to limit ourselves to the general consequences, which sin has had at all times and among all peoples, but if we should have had space to enter also upon special phenomena of particular times, the present would offer us an occasion to speak a word here also of the helpmate of parents, of the school.

the same phenomena meet us also in "Christendom" in all places, where of Christian faith only the name is still existent, and in the place of the thing either superstition or open apostasy has entered. With all which, then, are still associated the pseudo-moral and pseudo-religious views and systems, already considered earlier, in which the root of all those evils turn to wood and solidify.

C. THE ORIGIN OF SIN.

§ 125. *The Origin of Sin lies in the Commencement of the Human Race.*

It has now been shown that it is not only possible, but certain, that the decision of the will for evil, once accomplished by any one man, operates in organically corrupting and limiting the freedom of the will and in enslaving it, as upon the microcosmus of that individual so upon the race of his descendants. When we find (§ 114) as a fact, that a state corresponding exactly to this concept of organic corruption is everywhere existent in humanity, so there follows hence with mathematico-constraining necessity the syllogistic inference: that the causal origin of this state, *i.e.*, the act of the spontaneous averting of the will from God, must have been the act of the procreators common to the entire human race, consequently of the first human pair. For if this had not been so, if rather a greater or less number of generations should have preserved themselves free from sin, and first in some one succeeding generation, some one single man, or a single human pair, should have determined themselves for evil, sin would have been capable of transmitting itself as a state only to their posterity, and not to the posterity of the rest, and there would then be sinless races of men along with the sinful. (For that mere example, remaining neutral, suffices still less than the education of parents and elders, to change a God-loving will into an evil

will, results from what was said in § 121, *b*.) Equally so, and for the same reason, there would have to be sinless races along with sinful races, if after a series of sinless generations not one, but several individuals, here one and there one, had determined themselves to evil; should you, however, wish to substitute as the explanation of the universality of the sinful state, that after a period of sinlessness not merely individuals, but all single individuals, and indeed, according to § 121, *b*, without a determining influence of the one upon the other, each for himself, had determined themselves for evil, this means: to put an accident in the place of an explanation. And indeed one which is highly improbable. The probability that of only ten men each should have independently determined himself for evil, is $(\frac{1}{2})^{10}$, that is, 1 in 1024. How slender then is the probability when we have to do not with ten, and not with hundreds and thousands, but with many millions! For a single million the denominator of the fraction of probability would be $= 2^{1,000,000}$, that is, a number consisting of 301031 ciphers. And finally, with the assumption that the human race may be descended not from one pair, but from several, it would equally so have to appear as a contingency that each of these progenitors, independent of the others, should in spontaneous decision have determined himself for evil, not a single one for good. (For that this decision for evil is not permitted to be deduced from an inner necessity of a law of development, has been already proved, § 112.) Thus the universality of the sinful state itself already comprehends an indirect proof for the "unity of the human race" (see the *Obs.*), since it is explained in a satisfactory manner only on the presupposition: that the causal origin of the sinful state occurring universally in the human race, is to be sought in a spontaneous decision of the will of the procreators common to the whole race. This presupposition, however, includes a second, in itself most rational: that the decision between good and evil, as it is qualitatively the highest, the central volition of man, affecting his relation to God and determining

all subordinate volitions from other directions (§ 117), so it has also been the first in time, which was submitted to the human race, namely, to be decided.

Obs.—The so-called “unity of the human race,” *i.e.*, its descent from one pair, is a truth which in a natural-historical manner is only proved according to its possibility; the proof for its actuality, on the other hand, admits of being conducted only in the way of historical (ethnographical, linguistical, and culture-historical) investigation, and will be dealt with in our Second Part. The philosophy of nature, on its part, finds itself in regard to this question in a state of vacillation, which from the first awakens little confidence in its results relating thereto; yet for three decades he was pronounced a silly man who ventured to assert the unity of the human race; now-a-days they will admit men and monkeys to be descended from one common ancestor, nay, well, all organisms together from one original cell! In those days it was said: The difference of races is much too great, as that they could be derived from one parental pair; now-a-days the “difference between a professor and a rhinoceros” is—in spite of the old basin-hoofs—not yet great enough that a common primeval ancestor of all vertebrate animals should not have been capable of being found for both! Nevertheless such vacillations of fashion need not restrain from a considerate natural-historical investigation. One such is conducted in a very profound manner by P. M. Rauch (*die Einheit des Menschengeschlechtes*, Augsburg 1873). While we refer the reader to the study of this work, we confine ourselves to the reproducing of the most essential chief points. The concept of species does not allow itself to be derived from windy, unproved hypotheses, but only from the facts of nature lying before us and accurately observed, and then it becomes manifest that the unlimited capacity of propagation determines and defines the concept of the species (so Linnæus, Buffon, Oken, Prichard, J. Müller, Latham, Vogt himself). According to this, the different races of men form one single species, for that they mutually copulate with unlimited capacity of propagation is indisputable. Further, the anatomical structure with all races is the same; *e.g.*, with all the breast-bone consists in childhood of eight, in youth of three parts, which later grow completely together; with all the teeth are in the same number and succession and without existing gaps; with all are the same bones, the same existing muscles, the same position of the thumb; the mobility of the fingers, the structure of the organs of speech, the composition of the blood (investigated and established by Foissac), the same functions of all the internal organs, the duration of

pregnancy,¹ the existence of the calves of the legs and rounded lunules, the smooth skin, covered with hair only in definite regions, are common to the whole race. Even so is the capacity of forming concepts and language, founded in self-consciousness, which departs from all animals (cf. above, § 66 ff.), in which we may still be reminded of the artificial, grammatical structure of the language of many savage peoples (with Du Ponceau). Then there is the smallest difference in the stature of the races (the greatest has the proportion of 3 to 2, whilst with the races of many species of mammalia it is 12 to 1!) and in the duration of life (where the most remarkable differences are not directly established by the race, see Rauch, p. 67 ff.).—If, now, we consider the differences themselves of the races, it is proved by Kolliker (*Microscopische Anatomie*, ii. 52) against Flourens that the anatomical structure of the mucus stratum is the same with all races, and the pigment is existent with all races. The difference of the complexion reduces itself merely to more or less of pigment, and indeed the most different shades are found in one and the same race (e.g., Arabians are in the highlands clear yellow, at Mecca brownish, on the Nile and in the Sahara deep black; Caucasians are in Europe white, in India (the Brahmins) brownish, in Abyssinia black; Jews are in the Barabinsky steppe clear white, in Germany yellowish, in Congo black. Analogous is the colour of the hair). These shades of colour have their cause in the continual influence of the climate (Mutke, *Natur und Offenbarung*, vol. viii. f.); a hot climate acts even upon Europeans, in a short time often colouring them (Pruner, *Krankheiten des Orients*, 1847; Langsdorf, *Notes upon a Journey Round the World*, p. 77; Forster, *Notes upon a Journey Round the World*, p. 29). Conversely, we have also cases of negroes, who in cold climates have become of a clear colour (*Ausland*, 1847, p. 596; Hutchinson, *Transactions of Ethnology*, 1861, p. 61; and see also Rauch, p. 84). The physiological reason for the colouring of the skin in hot climates lies therein, that the air of the tropics having less of oxygen does not abstract sufficiently the carbon from the blood, and this as bilious matter and pigment must be removed through the skin (Heussinger, *Grundzüge der Physiol.* 1831; Berthold, *Lehrbuch der Physiol.* ii. 325; Pruner, *Naturgeschichte und Anthropologie Aegyptens*). Hence depositions of pigment in white people in consequence of sicknesses. Then as to the form of the bones,

¹ "Ten lunar months" does Wundt (*Physiol.* § 219) assign to the same, and asserts, notwithstanding (§ 217), the coincidence of the periods of menstruation and the duration of the lunar months is a "purely accidental one"!!

the skulls of the negroes, but also of the New Hollanders and those of the Indians of Cuba and Hayti and those of the inhabitants of Brittany have a very thick, ivory-like structure, whilst, again, even with individual negroes delicate, lightly constructed skulls occur. Going in the bare skin under the glow of the sun, moreover, co-operates likewise as a cause, since it causes a continual irritation and a blood pressure towards the head. But also the saccharine nutriment.—The quadrangular or the oblong form of the cheek (instead of the oval) does not fix the limits of races (Weber, *Lehre von den Ur- und Rassenformen des Schädels und Beckens*, Düsseldorf 1830). The facial angle of the skull with man plays between 90° and 64° (with the chimpanzee and orang-outang it amounts to $35-30^{\circ}$!) and is not correlate with all races (Blumenbach, *de varietate*, etc., p. 200); even with Bushmen it is found up to 90° (Pfaff, *Schöpfungsgeschichte*, 633). The reticular division of the skull in dolichocephalous and brachycephalous skulls again unites tribes of the most diverse races with one another (e.g. Lapps, Slavs, Persians) and separates tribes of the same race (e.g. the American Indians). Prichard's division of skulls into the oval, pyramidal, and prognathous form agrees for the most part with the differences of race, and permits of being considered as one of the more essential characteristics; that we are not, however, permitted to draw from this an inference to the impossibility of a common descent, proceeds from the fact, that in each race the two other forms of the skull, in by no means rare cases, are always to be met with as individual or family peculiarities. (*Allg. Augsb. Zeitung*, 1855, p. 1723. Carpenter, *Varieties in Todd's Cyclop.*; Sömmering, *die körperlichen Verschiedenheiten*, etc., p. 15; Tschudi, *Reise in Brasilien*, and many others.) Besides, then, it is still to be observed, that many savage tribes arbitrarily bring on a definite shape of the skull by bandaging the skulls of the infants. And, moreover, if you wished to refer to the size of the cranial cavity and the weight of the brain as to a difference of race, it has, on the other hand, been proved that the average volume of the brain of the negro is equal to that of the European (Rauch, p. 150); among the latter, however, the French are distinguished by a very small brain, equal to that of the Cingalese and Alfurians. (Pfaff, "On the Cerebral Volume," in Zöckler's *Beweis des Glaubens*, vol. vi. H. 2, p. 127 ff.; Davis, in the *Philosophical Transactions of the R. Soc. of London*, 1868.) That the historical, intellectual development of single individuals and single tribes operates upon the formation of the skull and bones far more effectively than the descent and the race, is shown by the state of those Irishmen two centuries ago driven by Englishmen from Armagh into the waste mountains and into the

most extreme wretchedness, whose bewildered descendants had prominent jaw-bones, depressed noses, high cheek-bones, and bow-legs (*Dublin University Magazine*, No. 48), besides other cases. Finally, as regards the smoothness and curling of the hair, all human hair, even the so-called "woolly" of the negro, is distinguished from the actual wool of animals by the want of indentation and by the even thickness decreasing only towards the apex. (Martin, *Natural History of Man*, p. 173; Prichard, *Natural History of Man*, p. 96.) That apparently woolly hair occurs even with Caucasians (Prichard, *l.c.*; Pruner, *Krankheiten des Orient*, p. 72), and even so again smooth hair with negroes (Sömering, *On the Corporeal Distinction of the Negro*, p. 9, and other passages). Even the analogy of many species of animals shows that the character of the growth of the hair varies independently of the descent, solely by the influence of the climate upon the skin. That differences of race have on the whole and in a degree been considered established, no rational person will claim to deny. There must have been given a period of the differentiation of races, upon which that of the conservation of those differentiated races have followed. But that among all those differences of races there is no single one which might not at the present day still be formed with the same descent from common ancestors in consequence of external influences and internal intellectual differences of development, this has been proved with the foregoing, and herewith the possibility of the descent of the human race from one pair has been demonstrated from the side of natural history. As has been said, we will produce the proof of the actuality in the Second Part.

§ 126. *The Sphere of Freedom and the Concept of Permission.*

The decision of the will for evil contradicts the will of God and the destination of man; consequently, that the first progenitors of the human race determined themselves for evil, for alienation from God, was by no means willed by God, and there is the most fundamental, the most ruinous perversion of the truth in its contrary, when Pantheism pronounces the becoming actual of sin as intrinsically necessary, and willed by God. Absolutely only this is willed by God (§ 112), that man should have the freedom of spontaneous decision between good and evil, and consequently, not the actuality, but the possibility of evil is willed by God. This possibility, however, was, in short, identical with the existence of

personal creatures. If it is the eternal creative will of God that egoistical, self-conscious beings should exist who are capable of ethical behaviour, *i.e.*, of the voluntary attainment of the knowledge of God, and destined to the same, He herewith just willed beings who were endowed with self-determination, and might determine themselves to ethical behaviour, to the attainment of the knowledge of God; for a being, which could not determine itself to ethical behaviour towards God, would just have been incapable of any ethical behaviour at all; indeed it just lies in the concept of ethical behaviour, that the same should happen not with natural necessity in consequence of a natural law, but with freedom from the intellectual entelechy of an ego cognizant of itself, and capacitated for the cognition of God (§ 99). But now, if, therefore, the freedom of self-determination in reference to the ethical law is already contained in the concept of the self-conscious, personal creature, there is even therewith also given the possibility of a self-determination for evil, of a voluntary turning away from God, and thus, even this possibility belongs absolutely to the concept of the essence of the personal creature. If, therefore, God has in eternal love (§ 97) willed, that a world, a universe of creatures, should exist, and that this world should attain its summit in personal creatures, which are capable of taking cognizance of the creative thoughts of God in the laws of creation, and of the Creator Himself, and through free-willed accomplishment of this cognition to be blessed in mutual love to Him: in doing this God *eo ipso* has also willed the possibility of the reverse, the possibility of an opposite behaviour of the will of man, just because He willed the freedom of man. On the other hand, God has not positively willed the becoming actual of sin, has not willed that man should resolve upon evil, but that he should declare for good, that he, however, should have been able to resolve upon the one as upon the other. The latter will of God: that man is a free being capable of resolving upon good or evil, is a creative, efficient

will; according to this will God has, as a matter of fact, made man a being endowed with self-determination, capable of resolving upon good or evil, and has conferred upon the essence of man this capacity, this freedom, this entelechy of the most specific self-determination, as an inherent, essential quality. But now, just for this reason, it is no contradiction with the efficient, creative will of God, but the most immediate consequence and a logically necessary sequence of the same, that that other will of God: that man is to determine himself (let it be well observed: is to determine himself! *ipse*!) for the good, for love to God, for which his being is organized and destined, now enters into actuality, not as a constraining will effectuating the result, because, otherwise, indeed that former will: that man should be free, would, in return, be annulled and negatived—nay, still more, because this second will itself: *ut homo ipse se ad bonum discernat*, would in itself, in return, be immediately annulled. It results, therefore, that that divine will, in itself indivisible, which has willed and created man (α) for the destination of loving God, and, for this reason, (β) as a free being endowed with the entelechy of self-determination, enters, according to its first part (α), into man in the form of mere demand, of mere obligation, not in that of causing, or as the theological, evangelical scholasticism says: as *voluntas præcepti*, not as *voluntas decreti*. In the *voluntas decreti* is already posited the will: that man is to determine himself to the love of God, consequently: that the will, that man should determine himself to the love of God, becomes actual only as *voluntas præcepti*. In the creative act of the Divine will, in which God has posited the essence of man as one endowed with self-determination, is therefore contained, as the most immediate consequence, the act of the Divine will in restraining itself from every influence which would injure this self-determination of man, and herewith is posited in the free self-determination of the personal creature a sphere, in reference to which God is related, not actively, but permissively.

Obs.—In permission God causes His operation, not His volition, to cease. He wills the free determination of man (wills that man should determine freely), and thus then He also wills its result (that for which man may freely determine, the thing that has been permitted) in as far as it is a free human act of determination, not in as far as it is evil; He wills the result as permitted, just because it is permitted. It does not stand thus, that God willed the free self-determination of man, but, afterwards, when man resolved upon evil, taking fright, as it were, lamented and cried: "Truly, had I known this! it was not so intended!" Rather, with human freedom the possibility also of this eventuality was likewise intended, and consequently the becoming actual of the latter through human freedom results within a sphere posited by the will of God.—If the concept of permission involves only that of a willed non-working, it involves therefore only an abstinence from working, not from volition, still less does it involve a limitation of the will. As the Eternal, who sustains the universe in His eternal will that is not subject to time, who in the eternal present beholds together the entire dimension of time (§ 89, 90), and who has not to become acquainted with the universe, God knows in eternal knowledge as the existence so the volition of creatures. R. Rothe (*Ethik*, § 42) denies this, intelligibly! because he, in his half-panteism (see § 94), ascribes to God no eternal knowledge, but only a knowledge elapsing in the form of time (a becoming acquainted with the world). When, however, Rothe raises the objection against this divine, eternal knowledge of the decisions of the human will, that thereby the freedom of human self-determination is in return abrogated—"that which is once objectively certain for God can no longer for man be an affair of free decision"—this is nothing but pure juggling. Conceding even that God may see the human decision "beforehand" (in temporal prius), it would even then be a school-boyish sophism to say: "Because foreseen by God it must thus happen, that is, is necessary, consequently is not a free decision." From temporal prius a causal necessity is inferred, whilst only a logical necessity admits of being inferred. *Causa*: man determines freely. *Effectus*: God beholds (not beforehand, but in eternal beholding) that man thus determines. Subjective inference: It is to be inferred with logical necessity that man must have thus determined, because God would otherwise have "foreseen" (or more correctly: would have beheld in eternal beholding), not this, but another decision. In other words: in subjective reflection the inference is to be drawn with logical necessity from the effect to the cause, but truly it is not to be inferred, that the cause has been caused by the effect!!

§ 127. *The Divine Government of the World.*

Now, however, we know from § 115 ff., that that freedom of man, willed by God, in absolute measure only takes place for the decision, happening for the first time, of the will between good and evil, and that, as soon as the first human pair had resolved upon evil, there would herewith have had to enter for themselves and for their posterity those pathological consequences of sin (§ 115–123) whose collective result has been a limitation of freedom. Man, having in free-will turned away from God, is for his own person and with his whole posterity no longer free from sin, but only free in sin (§ 123), *i.e.*, he has no longer free choice in reference to the ethical antithesis, to the behaviour for or against God, but still only the free choice between single (selfish) aims of life, which, instead of the one true aim of life, he has set himself, and between the subordinate ends which he posits as means for the attainment of that aim of life; and further, he has (see § 123 to the end) also still the free decision, whether he will give himself up to the condemning voice of his conscience and to the painful feeling thereby caused within him, or will violently smother that voice by systematic excusing of sin. Moreover, God does not interfere with this limited freedom, but remains in a permissive relation to the decisions of the will, as far as they are in any way of ethical contents, *i.e.*, have reference to the ethical antithesis (of the suffering on account of sin and the smothering of conscience). Therewith, however, it is not excluded that God is related in an influential manner to the actual execution of the formed decisions of the will, that consequently He lets a resolution of the will of a sinful man attain one time to execution and the other time hinders it. This is the so-called *con-cursus Dei ad malum* of theology; theology distinguishes sharply and correctly in the sinful action, (*a*) the *malum in se* (or *malum in genere moris*), *i.e.*, the ethico-evil decision of the will, qualitatively opposed to love for God, originating

in selfish worldly lust, or in selfishness whose desire is the world, which depends only and exclusively upon the self-determination of man, and operates not upon God; and (β) the *malum in genere entis*, i.e., the external action originating from such a decision of the will, which, as a starting-point of a new causal series, interlocks into objective events, into history, and has consequences for other men. This external action, this actual, essentially objective execution of the subjective evil resolution of the will God hinders or does not hinder, ever according as it, with its objective consequences, is contrary to His holy loving designs, His decree of the government of the world, or dovetails into the same. The internal resolution of the will of Joseph's brethren to kill him (Gen. xxxvii. 20) God as little infringed as the later resolution of their will to sell him (vers. 26, 27); but the execution of the former resolution God knew to prevent (vers. 21, 22), while according to His wise and gracious counsel He permitted the execution of the second to happen. Absolutely, therefore, the point in question with this Divine government of the world is not merely in the abstract about this, that the creative will of God, as the ultimate cause, lies at bottom of all objective being and happening, but specially the point in question is about a teleological administration of God in opposition to the free self-determination of the personal creature, an administration in which God prevents and permits not to attain to objective being, to objective realization, those consequences (executions) of the evil decision of the creaturely will, which would frustrate His decree of love (§ 97) in reference to the whole and in reference to individuals. But still, herewith, there is by no means given in any way the concept of miracle; with miracle the government of the world (providence) as such has as yet absolutely nothing to do. The means, whereby God, as He who governs the world in preventing or in permitting to happen, acts on the non-execution or execution of single formed resolutions of the will of man, belong not to

the department of miracle, but to the department of that "impulse" resting on the creative relation, of which already mention has been made above, § 101, *Obs.* (whilst the concept of miracle is plainly correlate to that of redemption, see beneath, § 134). As in the microcosmus of our body the movements of our members result according to physico-chemical laws (nay, consist entirely of the execution of such laws), and nevertheless are not called forth by these laws, but by our conscious will, so also with the course of nature, elapsing with the necessity of natural law, a continual influence of the impulses of the Divine will upon this course (without violation of the laws of nature, consequently without miracle) is conceivable. The how of this influence is just as exactly unknown to us as the how of the influence of our will upon our brain and our motor nerves. Only so much admits of being said in explanation: In nature every particular is not determined¹ with absolute necessity by natural law. Already geognosy teaches us that in different periods of the earth's formation various new powers and forces became active (cf. below, § 168). As soon as the vital power appeared in the vegetable world, there entered with it also a kind of spontaneous caprice, a kind of slumbering will, in the manner how the vital monad reacts on external influences; for only the essential idiosyncrasies of the vegetable cell, not the individual size and form of the single cell — and thus also only the specific peculiarity, and the healthier or weaker habitus, called forth by the more or less favourable external conditions of life, but by no means the individual formation (*e.g.*, the number of the branches, number and size of the individual leaves), are determined by a natural law. In vegetable life there is already a kind of slumbering will, a freak of nature. In the animal kingdom, moreover, there is freedom of life, caprice. As far as the animal is determined by instinct, it is determined with necessity (§ 72), but the law of instinct

¹ Cf. the words of the naturalist Wigand, cited in § 101, *Obs.*

leaves to the animal a large sphere of voluntary actions (cf. the Buridianian ass, § 45, *Obs.* 1). As easily as God, as a creative power, operates determinatively, with constraining necessity, upon the will of the animal in positing the law of instinct, just as easily is He able to operate impulsively upon the will of the animals as far as the same is caprice, and thus it will, of course, allow itself to be considered as an act of Divine providence when the asses of Saul ran off, or when a bull that has become wild runs past a rock on the left and does not perceive and kill the traveller standing on the right. But also in the human will there exists a sphere of mere arbitrariness, in which the will is determined neither by ethical decisions nor by posited ends. In the first place, in proportion as a man is still irrational, and for this reason, in the choice of means for his particular works, still gropes around blindly (§ 87), and therefore, secondly, in proportion as he has fallen into the bondage of sin, and herewith of mental blinding (§ 117 and 120), and through blinding and passion clearness of judgment has been lost. Such a state of arbitrary, obscure, groping volition is one beneath human nature, a state to which man is pressed down by sin. Even here God is able to operate determinatively through impulses on the decision which from the human side is arbitrary, *i.e.*, accidental and without reason. (That He is able also in a higher way, through His Holy Spirit in awakening conscience,—cf. Gen. xxxvii. 21, 22, and vers. 26, 27,—in converting, in strengthening the good, to operate on objective events, belongs to the following Section.) Thus nature and history are under His government, and are at His command for the execution of His plan of the world, of His holy-loving decree.

§ 128. *Authenticity of the Fall.*

Since, now, it is clear that the development and history of the posterity of a pair of human beings, who have determined themselves for evil, becomes entirely different from that of the

posterity of a human pair who have determined themselves for good, so the decision in reference to the love of God or sin, good or evil, is that which determines the whole remaining development of the pair and of their descendants. And thus that, which has been submitted to us in § 125 as an historical fact, is also proved as that which for an internal reason is correct and necessary, namely, that the historical development of the human race must have necessarily begun with the decision of the will in reference to the ethical antithesis, that consequently the first progenitors had to be induced and solicited to this decision.

Obs.—The primeval tradition of the Fall of our first parents, preserved to us in Holy Scripture—mocked and derided by unbelievers and insipidity—interpreted by pantheism as a myth, and so explained away (as is claimed to be taught by them, that development through sin would have been an internally necessary one, and the only possible kind of development) into its own antithesis—is proved on considerate reflection rather as perfectly agreeing with the results of the correct philosophical development of knowledge. Let us once turn away entirely from this account, and construe *à priori* how and under what forms that decision of the will, necessary in itself, would have to arise and could only arise. The childish love of the first human beings to God, their Creator, existent in immediate actuality, was intended to be raised to conscious, to free-willed decision for love to God. The first human beings had not yet, because they were not evil, even the concept of the possibility of evil (the possibility of another behaviour towards God, of a turning away from God). This abstract concept of the possibility of evil, however, they had to have above all things, if their decision for God's love should be a conscious one. They received that concept of the possibility of evil when God gave to them a prohibition. The contents of the same was not permitted to be, perhaps, the abstract: "Ye are not permitted to hate me," or, "Ye are not permitted to turn away your love from me, to fall into selfishness," and the like; for just thereon: what this means, they had indeed as yet no concept; this would have been for them pure sound without sense (as if, perhaps, you chose to give to a nomad of the Gobi steppe, who knew nothing of the sea and of navigation, the prohibition: "You are not permitted to sail over the sea"). The contents of the prohibition had to be a concrete contents; in the thought

of the possibility : either to neglect or nevertheless to do the forbidden concrete thing, was then given the concept of the possibility : of willing what God does not will, consequently of opposing one's own will to the Divine will, and therefore of turning away from God. This concrete prohibition, however, could not be derived from relations which did not yet exist, had not yet been developed (as, the family, relations of right, the State), but only from the single relation which was already existing : the relation of man to nature, which gave to him his nourishment.—A theophany, *i.e.*, a manifestation of God by means of a visible and audible form, was requisite, just because the first human beings could not once evolve subjectively from themselves the concept of the possibility of evil, to say nothing of the prohibition confronting them as an objectivity : it had to be given to them from without, consequently in the way of sensuous perception (of seeing and hearing). The prohibition alone, however, did not yet suffice ; the abstract concept of the possibility of a turning away from God was not yet sufficient ; man had also to be solicited to actual decision in reference to the prohibition.—So much may we develop *à priori*. And with all this that account (which, as one descending from the common primitive kinsman of all nations, a rainbow circle of analogous but misgrown legends with the most diverse peoples of antiquity absolutely confirms, as we shall see in Part II.), descending from the traditional primeval reminiscence, entirely agrees. What the account of the Holy Scripture further narrates of the kind and form of that solicitation to evil, and what it further thereon reveals in the New Testament, this stands in no point in contradiction with that which we have hitherto recognised as rational. A (single, personal) creature that has apostatized from God, which belongs to another circle of personal creatures than to man (*cf.* below, § 143, *Obs.* 2), must—in conformity to the *concursus Dei ad malum*, considered in § 127—subserve God with the instrument for His decree ; this creature has, on its part, the evil purpose to plunge humanity into irretrievable corruption (which purpose God frustrates through redemption ; see Sec. 3). God lets the doings of this creature happen, because His purpose : of soliciting the first human beings to a decision, is thereby attained. That creature, nature, in itself intellectual, must, in the form or through the mediation of a class of beings subordinate to man, of an animal, enter into intercourse with man, in order that he may forthwith recognise it as a fellow-creature, and may not erroneously place it as a being on the same grade with God manifesting Himself in visible (without doubt human) form. That, however, a dismal power acted in the animal, man

perceived from the language of the same.—The solicitation to the decision resulted in the following manner. To the plump doubt, whether God has given the prohibition, the mother of men opposes the simple narration of the real truth (Gen. iii. 2, 3), and expresses with childish simplicity her obedience as a matter of course. “We may eat of all trees, but of this tree God has said: Ye shall not eat of it.” That God has said this, already also involves in it, that she eats not thereof. Now the tempter represents the prohibition as given from disfavour; its transgression may lead to the knowledge of good and evil, and to equality with God. (Of course, to the knowledge of good and evil, but to what knowledge! To this, whereby man learned from his own bitter experience to know evil, and, moreover, had the normal state, as a lost state, only still in the memory to the enhancement of his pain. That the decision for the good would also lead to the knowledge of good and evil—and to what other knowledge!—the father of lies concealed. Equality with God, moreover, was a mockery; in his subjective, impotent, vain volition the sinner makes himself his god; in his being he remains a creature, and becomes one rent within itself.) But with this language the tempter placed the concrete intuition of a personality which does not love God before the view of the first human beings. These were thereby solicited to a decision of their own, but in no way necessitated to a decision for evil. Now that in the will of the same the desire arose: of wishing to become even God, and to turn themselves away from God, and to oppose their own will to the will of God, this was (see § 112) purely and alone their own decision of will, which could not immediately enter without a violent repressing of the reminiscence, present in them (vers. 2, 3), of God’s prohibition, and of the knowledge of God existing in them, and of the hitherto blessedness in God’s love. The question raised by scoffers, whether then the bite out of an apple has been a sin so great as the opinion that the sin of our first parents consisted in sensual lust (in eating of dainties) or in inquisitiveness, is too silly to deserve a further refutation than the one already involved in what has been said above. Silly also is the opinion, that the whole is a parable or allegory of the awakening sexual impulse. The sexuality of man is indeed represented (Gen. i. 27, 28, ii. 18 and 21–24) as given before the Fall, as willed by God; only, in consequence of the Fall, there entered that perversion or corruption of the sexuality, already demonstrated above, § 123, *B, c, a*, that emancipation of the natural impulse from the will, which in a consequential manner (see the disputed passage) had for its correlate the feeling of shame (compare Gen. iii. 7 with i. 31).

D. NATURE, ORDERED FOR THE POSSIBILITY OF SIN.

§ 129. *The purposed Imperfection of present Nature.*

But now, if God has willed the free decision of the incipient human race in reference to the ethical antithesis, and with it the possibility of a decision for evil, and herewith the possibility of an abnormal development and history of humanity, and, if we know further, from § 80, that entire nature is ordered teleologically and organized by God for the sake of personal creatures, and indeed the earth together with all its organic natural beings and inorganic bodies (complexes of powers) for the sake of man, the inevitable consequence is this: that God, with the organization of nature and its laws, has had, from the first, regard to the possibility of a decision of man for evil, consequently to the Fall as that which was appointed, if possible, to enter; that consequently he has created nature not immediately according to the highest exponential series of perfection, but so as it might be adapted to a state, which was in the first place a state of probation. With the microcosmic organization of man and the macrocosmic arrangement of the external world, the double eventuality had to be kept in view, that the human race might possibly determine itself for evil as well as for good.—If now we look, in the first instance, at the microcosmic organization of man more closely with an eye towards this point, we recall to mind from § 53 f. that our self-conscious ego is bound in our present state to corporeity, not from the side of its self-consciousness (§ 59), but, well, from the side of its world-consciousness, namely, in the manner, that it not alone perceives by means of the bodily organs of sense the influences of objective things, but also as a reflective consciousness may contemporaneously represent to itself ever only one or few objects, and cannot be conscious jointly of its entire intellectual contents. But that in and for itself a free, a less bound behaviour of the self-conscious ego in the corporeity is also

possible and conceivable, this results partly from those actions of genial anticipation, discussed in § 54, partly from the phenomena which are designated by the name of animal magnetism or of clairvoyance, with which there takes place a beholding of the external world not mediated by the bodily organs of sense, though by no means an unlimited beholding, and even so a state of consciousness which is free from the bodily limitation of the "reflective consciousness." (See the *Obs.*) If we look more closely at the body of man, we find that in it the monads of lower order (§ 67), the cells (consequently the so-called "material" constituents), are entirely ruled by the monad of higher order, namely, by the monad constructing and animating the body; that, however, this dominion is by no means an unlimited one, but one conditioned through certain fixed relations of surrounding nature, consequently of the external world. The body needs, in order to live, atmospheric air; it requires in its environment a degree of heat, which is not permitted to go above or beneath certain limits; it requires the possibility of motion, of food, of drink, and, beside all this, preservation against destructive influences of mechanical or chemical kind (mortal wounds and poisons). Only under these conditions is the vital monad able to preserve the cell-monads and the monads of the ganglionic knots in the teleological co-operation of their functions, and even under these conditions only for a certain time. After the expiration of this measure of time, which at present reaches only in rare cases the length of a hundred years, there enters even without special injurious influences from without a debility of the organs, which, in the one or the other way, causes death, in the most usual manner in this way, that the blood-vessels of the brain, relaxing in their texture, let the serum escape, which collects in the cells of the brain, and by the pressure exercised upon the brain causes paralysis and gradual cessation of the organs, which ends with suffocation (*marasmus senilis*). But that there is a multitude of other causes, which earlier and in other ways

may cause death, is known to the unlearned as to the physician. Hence it must be designated as incorrect, when Lotze thinks to find the sole cause of death, taking place with all kinds of death, in the dissolution of the wallings of the vessels and in the cessation of the fluids caused thereby. When as a residuum of a healed inflammatory disease a coagulated fibre becomes the stopper which stops up an artery, and, in so doing, the flow of blood into the brain, and through paralysis of the nerves (of the vagus, of the sympathicus) causes cessation of the respiratory movements and of the beating of the heart, *i.e.*, death,—or when the poison admitted into the blood through the bite of a mad dog causes, through the irritation which it exercises upon the medulla oblongata, writhing spasms and other convulsions, which at last end with absolute debility and paralysis of the nervous system; so in this, as in a hundred (and probably in all) other cases, the most proximate cause, which causes the termination of the functions of life, is not a destruction of the wallings of the vessels (although such may secondarily present itself as one of the preceding or accompanying causes), but the cause in those cases is a becoming useless of the nerves (in which, according to § 67, *Obs.* 2, the animating vital monad is present, and through which in insouling, *i.e.*, in controlling the functions of the organs, it operates upon the body),—a becoming useless of these nerves for the service of the vital monad; and in all cases the ultimate cause of death lies therein, that the hyper-physical power of the vital monad, in virtue of which the same is active in every single cell-monad as an actual law of life (§ 66), and maintains the entire system of cell-monads in organic co-operation, and through its regenerative activity (in the process of healing with the recovery from sicknesses) is able to remove even destructive influences, and disorganizations, and abnormities (above all even of the nerves) that have entered, is not an unlimited absolute power, but, in certain enhancements of the abnormal states of the body, finds limits which it is unable to

overcome and when it loses its control over the monads of the ganglionic knots and over the cell-monads, so that these no longer organically co-operate teleologically, but operate destructively against one another, and thus mutually destroy themselves. In the vain attempt of the central vital monad still to assert its dominion by activity on the not yet disorganized part of the monads of lower and middle order, the death struggle, the agony, is exhibited.

Obs.—As concerns clairvoyance, I will, besides the examples adduced already, § 59, yet cite a third, specially instructive for the present point of our investigation. My former colleague in Zürich, the late prof. jur. Dr. Geib, narrated to me that his brother had been in early years a somnambulist, that the same often in the midst of speaking fell into a magnetic state, broke off in the midst of a sentence, and when he, after some hours, awoke again, continued the sentence previously begun and completed the same. He had therefore in the bound state of the usual awake life no consciousness of that which he had beheld and thought in the unbound state of magnetic sleep; well, but he had in the unbound state a consciousness of all which he had experienced, had learned, and knew in the usual bound state. (Undoubtedly he knew also of the incompleting sentence that had been let drop, but the mental perspective revealing itself on the awakening into the unbound state of clairvoyance was too surprising and too captivating as that he should still have been at liberty to direct his will to the trifles of the bound state just then left.)—Observe incidentally the objection made against the resurrections of the dead as given in the New Testament: Whether those who were raised from the dead would not have felt unhappy in seeing themselves reinstated from blessedness into the state of temptation and suffering? finds its solution in the above. He who was raised from the dead looked over indeed from the unbound state to the bound, but not conversely; having returned into the latter, he has no reminiscence of the former.

§ 130. *The purposed Discord between Intellect and Sensuality.*

That state of being bound of the self-conscious vital monad to the corporeal functions of the brain, as this limitedness of the vital monad in its dominion over the middle and lower monads — both these are themselves designedly ordered,

designedly in reference to this, that with the freedom of the human will the possibility of the self-determination for sin was given. Just for this eventuality, that the development of the human race might, through the self-determination of its progenitors, become an abnormal, sinful development, was this kind of organization necessary. (4) That the self-conscious ego is bound in the life of corporeity, elapsing with necessity and involuntarily according to natural laws, it is thereby effectuated that sin substantiates itself (§ 119) in the corporeity as a disharmonizing (as propensity and vice). As this is in itself bad, so there nevertheless lies therein the possibility of a deliverance. When the corporeity with its impulses attains, namely, to an emancipation from the will, nay, to a dominion over the latter, man is degraded from his human elevation to the animal, inasmuch as every sensual vice has in itself the quality of abasement into "brutishness, bestiality." Only that (because the animalish does not here appear according to the divinely ordained law of nature or of instinct) the natural impulse, having become unnatural, enslaving the will, appears as a dismal, a demoniacal power. But now, if this were not the case, the turning away from God would rather be accomplished solely as a purely intellectual act of the will (as a purely intellectual revolt and mutiny against God, as purely and only a selfish thing: the making a god of oneself), man would become the devil; for this intellectual: positing of oneself as the centre, whereby the rebellious ego would desire no other periphery (cf. § 111) than the destroyed, shattered works of God, whereby it would thus seek not to appropriate these works of God in order to draw from them an enjoyment (earthly pleasure), and consequently would hunger and long after them, and would become their servant and slave, but would find its enjoyment only in the purely intellectual thought: of having opposed God and frustrated His plan,—this purely intellectual form of sin is that which we are accustomed to designate as the diabolical, the Satanic sin of pride and

malice. — But now, with man sin splits asunder into a Satanic wishing to be master and into an animal-demoniacal state of being a slave, into a self-exaltation and an ignominious abasement.—Now the latter, this true misery of sin, this eating of husks, in virtue of which the sinful man becomes conscious of his want of freedom, his slavery under sensual desires, and immediately also the ruinous destructive consequences of the same, operates in opposition to intellectual, sinful pride and stifles the same; the condemning voice of conscience (§ 106), as a rule, unites directly with these dispositions and sensations of misery and the shame over the debasing servitude of the will under the impulses, and this animal-demoniacal side of sin itself again so co-operates that conscience may not be completely stunned, but is able to act on. Just through this, however, does man remain capable of redemption; conscience, the ethical law, is indeed the sole remanent of truth in the sinner. If somehow and in some way a redemption is to be possible, it must connect with this remanent of truth; if this remanent of truth were lost, the innermost being of man were irrecoverably ruined.

§ 131. *Purposed Mortality.*

Even so is proved (*B*) the limitedness of the vital monad in its dominion over the cell-monads, consequently expressed briefly: the mortality of the body in which God created the first human beings (cf. 1 Cor. xv. 44–47, and § 132) is designedly ordered, namely, designedly for the eventuality, that the development of the human race might through the self-determination of its progenitors become an abnormal, sinful development. For if each individual among sinful men would continue to live for ever upon earth, sin in him would be enhanced to the most extreme mastery of depravity, and the historical cohabitation and influence of such experienced sinners and miscreants upon one another, together with its influence upon the succeeding generations, would lead to uni-

versal, most horrible corruption. So, on the other hand, the foresight and fear of death already operates on the individual in a restraining and chastising manner, in sustaining conscience, and the continual change of new and ever new generations has for the race an immediately salutary consequence, as far as with each new generation sin each time first begins again as a germ, and each generation is even necessitated to be but an apprentice, as it were, in evil from the beginning. Thereby is also prevented an enhancement of sin unto irretrievable corruption; the *status quo* is sustained, and thus the human race is maintained in a salvable state.

§ 132. *What might have become of present Nature in the case of a sinless Development of Humanity?*

There follows, however, with the most complete certainty from the entire development hitherto, and above all from that which we know concerning the divinely willed freedom of man, this: that even this real existent condition of the state of being bound of the intellectual monad in the body and of the limitedness of its body-controlling (body-regenerating) power, must also have been reckoned for the other eventuality, namely, even for this, that the progenitors might have resolved upon conscious love to God, and the development of the race might have run a normal and sinless course. Only then the further course would just have been a different one; a transition (be it gradual, or more probably: happening at once) to a higher stage of organization would have resulted.—The state of being bound of the soul and the mortality of the body—or, in order now to reduce both moments to one, the state of being bound of the soul in a mortal body—cannot first have entered in consequence of sin (as the Gnostics of all times have erroneously asserted); at least this is not a doctrine of the Holy Scripture; this says to us clearly and plainly (1 Cor. xv. 44, 45): The first man had a *σῶμα ψυχικόν*, and was created *εἰς ψυχὴν ζῶσαν*, and was (ver. 45)

χοῖκος, whilst the perfect man of the resurrection is to receive a σῶμα πνευματικόν, and a πνεῦμα ζωοποιούν. The body of the first man is named "psychical" as far as the intellectual vital monad, as a ψυχή, is bound in it, and indeed animates (and without consciousness and will of its own insouls) it as a ψυχὴ ζῶσα, but in its regenerative dominion over the body is not unlimited, is not ζωοποιούσα, but is bound in it as in an earthly, corporeal, foreign and heterogeneous thing, which, on its part, depends¹ upon the conditions of the external world. And as such (says Paulus) was this body created,² consequently has not first become so through the Fall. What has above resulted to us from anthropologico-philosophical research, therefore, agrees entirely with that which the apostle writes. The body of the first man was already, from its creation, on a mortal body. When now the same apostle, Rom. v. 12, says, death has come into the world through sin, so does this conflict as little with 1 Cor. xv. as Gen. ii. 17 with chap. iii. 19. Mortality and death are exactly related as possibility and actuality; mortality is the possibility of death; possibility and actuality of death are most exactly correlate with possibility and actuality of sin. The possibility of death (mortality, consequently that limitedness of the vital monad), just as the possibility of sin, was a possibility willed by God; man, in whom, in virtue of his freedom, the possibility of the decision for evil was still posited, had, in conformity to this, to receive also a body in which the possibility of death was still posited, i.e., his vital monad was not permitted to be endowed with unlimited dominion over the lower monad; for such an unlimited dominion would have been synonymous with an unlimited power of regeneration, and have excluded the possibility of death. Man

¹ Cf. J. Chr. K. v. Hoffmann, *die heilige Schrift N. Test.* ii. B. 392. σῶμα ψυχικόν "is the bearer, but also the conditional limit of the life to be led in it"; σῶμα πνευματικόν "is the bearer of an unconditional freedom of the same."

² For he appeals to Gen. i. 7. Consequently ἐγένετο = לָּיָה, "became."

now absolutely of his own will determined himself for sin on permission of God (§ 126), *i.e.*, in such a manner that God abstained from influence on him. And entirely analogous with this, the becoming actual of death now likewise entered on the becoming actual of evil,—not by an action or influence of God, as if He should necessarily have had first to change, to deteriorate, to poison the human organism,—but solely by this, that God left the body to its innate organization; consequently, in virtue of the original organization of the human microcosmus, namely, of the original and innate limitedness of the regenerative power (*i.e.* dominion) of the vital monad, death entirely of itself now entered as actual, as a simple natural result (for as is also presupposed, Gen. iii. 19 and 20, that the first human beings were in themselves already mortal, and should first have had to receive immortality through a peculiar endowment of power).—If, on the other hand, the first human beings should have resolved upon the conscious love of God, consequently upon good, the design (developed in § 130–131) of the state of being bound of the soul in a mortal body would have fallen away, and we are therefore imperatively necessitated to the inference, that in this case men would have been elevated to a more perfect and higher organization, namely, that the self-conscious monad, having raised itself to conscious love of God and conscious repudiation of evil, would hereby have been elevated into a personal relation of nearness to God, and into a relation of community of essence with Him, from whom a fulness of new, higher powers would have streamed on it and overflowed into it. Again, the Holy Scripture says to us entirely the same; for we may figuratively and properly understand what is said in Gen. ii. 9 and iii. 22 of the tree of life: therewith so much is unconditionally expressed, that exemption from the limit of mortality would have become the portion of man, if he had not resolved upon evil but upon good, that consequently he would have been raised immediately to that elevation of organization, to that deathlessness (*ἀθανασία*), which now is

to become his portion only through redemption, namely, to that *σῶμα πνευματικόν*, that *πνεῦμα ζῶοποιούν*, 1 Cor. xv. 44, 45.

§ 133. *The Possibility of a higher, a "glorified" Nature.*

Those savants of nature, who assert, man has been developed from an ape-like animal, and will in the course of some millions of years be developed further to a being, which may stand just as high above the present man as he does above the ape, have no right to smile at or impugn the proposition: that a higher kind of organization than that of the present humanity is, in general, conceivable. For they assume the same, though from fundamentally false premisses. But there is in fact a higher organization than our present, rational-cogitable one. The same cannot and will not consist in an abstract disembodiment (as the common rationalism thought), for He only can be absolutely without a body, who is exalted above the category of space and of the distinction of time: God. The relation of the vital monad to the single monads of its body, however, may be another than we now find it. At present, in this mortal state, the system of cell-monads is not ruled absolutely and unlimitedly by the central, intellectual, vital monad, but, in one part, is dependent on them, in another, on the external conditions of life, and the vital monad, on its part, because it does not rule unlimitedly over its body, is one bound by this and in it. With the dominion, which the vital monad exercises over its body (as constructing, insouling, regenerating this) and which, together with this, it exercises over the external world of nature (as assimilating and secreting), there clashes an opposite dominion, which the external world of nature exercises over the body, and this over the vital monad (over its consciousness, § 53, and over its will, § 119). There is, however, an order of nature conceivable, where this latter series of effects disappears, and the former alone exists, an order of nature therefore where the central vital monad rules with sovereign,

unlimited power over the inorganic complexes of powers (so-called "material substances"), assimilates the same, raises them to cell-monads, and pervades these cell-monads in unlimited power, so that no sort of influence may operate from without upon the body, which the power of the central monad might not subdue. (As at present the pieces of the crystal lens that has been smashed in a cataract-operation, which swim in the liquid of the eye, are dissolved and consumed by this liquid—which, nevertheless, does not chemically dissolve the sound, entire lens—as therefore the vital monad here possesses in this limited measure the power of effectuating the removal of an organ itself that has become abnormal and destructive, so just as easy is a power of the vital monad conceivable, in virtue of which it might be able continually to remove everything destructive. As easy as a regeneration of destroyed organs now takes place in a limited measure, so easy is an unlimited power of regeneration conceivable. As easy as an avoidance of mechanical interference now takes place in a limited measure through "unconscious action," so easy is an absolute avoidance of such interferences and a withdrawing oneself from them conceivable.) With such an unlimited dominion over the complexes of the body, and with such an unlimited dominion over the monads of lower and middle order, there then infallibly disappears also that dependence of the reflective consciousness upon the corporeal functions, consequently that discordant duplicity between reflective and unreflected knowledge, thought, and action, but also that between conscious thinking and volition generally and an unconscious, unintentional execution of the laws of nature (in animating the body); the vital monad becomes a *πνεῦμα*, an absolutely self-conscious monad insouling its body, but inspiring it throughout. That to this higher organization of the microcosmus would also correspond a higher natural order of the macrocosmus, follows as a matter of course.—To wish to determine *à priori* in detail the how of this higher order of nature and of the world would be foolish-

ness ; nevertheless, we have even yet enough to learn in the lower order of nature, which lies before our eyes, and do not yet understand of it the profoundest cardinal points ! To determine a natural order of a universe, is an affair of the Creator, not of the child of man. Enough, that a higher, a spiritual-immortal, a "glorified" organization of man and of nature is proved from the premisses of knowledge given to us as conceivable.

§ 134. *Possibility of the Miracle.*

With the scientific knowledge, that God has ordered the present existing nature of man and of the external world towards the eventuality of the becoming actual of sin, and therefore not according to the highest exponential series of possible perfection, and that consequently a higher order of nature not only in itself is conceivable, but will and must become actual in all places where sin and its possibility is annulled,—with this knowledge is now given to us the knowledge of the possibility of the miracle. The possibility of the miracle, considered in the abstract, is nothing else than the possibility, that God may permit other powers and laws to become active than those ruling in the macrocosmus surrounding us, that consequently he may permit effects to enter, which do not admit of being explained from the powers and according to the laws of cosmus in which we are. Now this possibility has been claimed¹ to be derived simply and immediately from the omnipotence of God. And according to § 91, it is indeed correct, that every power existing in the world operates only in virtue of this omnipotence, that the creative will of God lies at bottom of it ; no power, and

¹ Similarly U. Stutz in the otherwise excellent writing : "Die Naturwissenschaft, der freie Gott und das Wunder," from the will of God operating upon "matter." From this, however, are chiefly explained only those "impulses," belonging to the sphere of "providence," considered in § 101, *Obs.*, and § 127.

no complex of powers, has an independent existence in opposition to God, but exists only as thought and willed by God ; all and everything existing in the world ceases to exist and to operate, and to operate in such a manner, as soon as the time is at an end, which the eternal will of God has assigned to the existence and operation, and the operation in such a manner of the same (or popularly expressed : " It ceases to exist as soon as God causes His will, that it should exist, to stop "). It is therefore correct, that nature, the creature, is not able, on its part, to oppose any hindrance to the will and to the power of God ; it does not hinder Him to perform a miracle, when He wills to do this ; the system of efficient laws, willed by God, has attained in opposition to the Creator no independence, and forms for His will no limit, to which He might be bound. On the other hand, however, the objection has been made, that though not in the creature, nevertheless, in the Creator Himself a hindrance to the possibility of the miracle lies. Of course, only those have a right to this objection, who acknowledge adaptation in the order of the world and of nature. This objection runs so far, namely, that God, because He has ordered the laws of nature conformably to an end, He cannot again overturn and abrogate the same, since He would herewith abrogate, in return, the adaptation produced by Himself, and put the unsuitable in place of the suitable. Not in nature, well, but in God Himself lies the hindrance to the possibility of the miracle. But now it is also immediately clear, that, and why, this objection is stillborn. Suitably, certainly, has God ordered this world in which we live, not, however, towards the ultimate, the highest end, but towards a preliminary end to be attained, namely, not for the condition of the state of having attained to the eternal destination of humanity (as of the ultimate end of the world), but for the condition of the state of not yet having attained thereto, for the case of the possible deviation of man from his destination, and for the condition of the state of having deviated which has become actual, for the abnormality that

has actually happened; and indeed for this end, that with this state the sinking into irretrievable corruption may be averted and the *status quo* of simple sinfulness as such may be maintained, *i.e.*, that humanity may be preserved salvable. When now God for this preliminary end has willed and called into existence this present order of the cosmos, so then it is not excluded, that He cannot will and call into existence for a higher end a higher and a different kind of order of the cosmos, an order of unlimited and unconditioned state of being unbound, and dominion of the mind over nature. Such a higher end, however, was given, if God from eternity should have determined to redeem humanity from the state of sin, into which their progenitors had brought them through the decision of their will for evil in virtue of their freedom.

THIRD SECTION.

REDEMPTION.



A. THE NEED OF A DIVINE ACT OF REDEMPTION.

§ 135. *Outlines of the Idea of Redemption.*

WHEN it is admitted that God has willed the existence of a race of personal creatures endowed with the faculty of free self-determination, and in so doing has willed the possibility of a self-determination toward evil, it may fairly be supposed, that God, who is love (§ 97), will have made provision, in the counsels of His eternal wisdom and grace, even for the realization of such a possibility, in order that mankind may be delivered from the misery of sin, in other words, be redeemed. We cannot, however, of ourselves by the way of *à priori* speculation get beyond this supposition or hope. This much only may we venture to say beforehand with the greatest certainty, that redemption, if there is to be such a thing at all, just as little as that temptation described in § 128, solicitation to decide for good or evil, can of itself imply any limitation or denial of the freedom of man, for that would be tantamount to a denial of what is characteristic of human nature and constitutes the distinguishing feature of man as man. On the contrary, if we are to have redemption at all, it must rather consist in the terminating of that slavery to which the individual will had been reduced as forming a constituent part of a sinful world, and the opening up of a new sphere of self-determination to man, in which it is again left to man's own self-decision and individual determination,

that is, to his own choice to accept or to refuse the salvation offered. This at least is quite evident, that this choice offered anew to man cannot be the choice between good and evil *in abstracto*, between sin and sinlessness: for man is from his conception and birth a sinner, and in a sinful condition, and in a state of guilt, and what has already taken place in the past as a fact clearly can no longer be a matter of choice or self-determination. Nor, indeed, can the choice be given, even to the sinner that is to be redeemed, whether he will be a sinner or a sinless one, but only the choice whether he will receive or reject the offered redemption.

§ 136. *Man's Inability to redeem Himself.*

It is absolutely impossible to solve the question of the nature and contents of this redemption by means of *à priori* speculation. All that we can arrive at by such means is a scientific statement or intelligent unfolding of the need of redemption as actually existing. This need, moreover, makes itself felt only in those men, who (see § 123 at the end) listen to the voice of an accusing conscience, who submit themselves to the condemning power of the moral law, and do not violently quench that voice by a regular system of self-extenuation, by writing out for themselves letters of indulgence, calling evil good, obeying not the truth, but obeying unrighteousness (Rom. ii. 8). Those, however, who submit to the penal, condemnatory sentence of the moral law are thereby brought under a consciousness of guilt, and are, even by means of this consciousness of guilt, which condemns what they will and do as evil, inevitably constrained to endeavour, by a change in their willing and doing, to put themselves again in accord with the moral law and its author. They think that they themselves on their own part must make a beginning of redemption, but thereby they come at once upon an irreconcilable inner contradiction of willing and accomplishing, which we distinguish by the name of the "moral

antinomy." The good, to which the sinner conscious of his guilt should return, consists, as we know, in nothing else than the love of God, that is, in the permanent, undeviating love of God, dominating, determining, and filling all our volitions, thoughts, and feelings (§ 101). But by this very consciousness of guilt such love (§ 118) is excluded, impaired, made impossible. With the consciousness of guilt there arises, indeed, *eo ipso* a slavish fear of God as a far removed power, with whom man is in the most utter antagonism, a power which by its ethical demands dooms to extinction our own will and independent being. The sinner conscious of his guilt inevitably makes an effort to withdraw from that painful relationship in which he stands to this power; he endeavours to escape from God, which is the very antithesis of the love of God. That he should attain unto the love of God, to that which alone is the true good, is thus purely impossible. If he attempts to determine himself toward the good, he inevitably forms an erroneous conception of that, setting before him some subordinate ethical good as the object and end of his volition, his improvement, and subordinate good, which is not co-extensive with that truly supreme good, the love of God. He will seek to appropriate particular forms of moral good conduct, in which the love of God manifests itself among the rest, and for the breach of which his conscience has reproved him, as, for example, honesty in his dealings with his neighbours, chastity, etc. (comp. § 109); he will seek to avoid particular manifestations of a sinful nature; he will be improved, but he is not good. On the contrary, just because he sets relative ethical requirements in the place of an absolute requirement, he now comes for the first time into what may properly be called a state of moral perversity. To separate works or acts of self-denial was ascribed a meritorious value, as in the asceticism of Indian penitents, abstaining from fleshly enjoyment, from marriage, the self-inflictions of Stylites and the Flagellants, the Indian animal-hospitals side by side with

the pitilessness of the caste system toward man, etc. The inevitable consequence was that the innermost voice of conscience, the deepest truth of human nature, continued after as well as before to address its sentence of doom and condemnation against the whole moral condition of such a man, so that he could never thus attain to peace of conscience, to inward peace, to peace with God. Hence a second and further attempt is straightway made, an endeavour, that is, to clear out of the way that existing guilt, of which one is conscious, by means of penances and sacrifices. But the same phenomenon here again presents itself, and instead of the one true absolute expiation we have put before us merely relative expiations. Sin once present, however, can be truly expiated only by the sinner bearing and enduring its consequences; but its consequences are nothing else than wretchedness itself, destruction, death in its fullest sense, that is, death as utter separation from God the eternal central source of all life, to which death the dissolution of the body (§ 131), this decay of the bodily organism, is only related as a mere accident. The sinner wishing to redeem himself, instead of acknowledging this, thinks only of particular relative consequences of sin, particular outward evils, and supposes to remove that condition of guilt which separates him from God and to be able of himself to overcome such particular penal consequences, by voluntarily surrendering certain particular goods, and dedicating, as an offering to deity, animals, or fruits, or any other possessions. But both of these ways, —that of relative moral improvement and asceticism, as well as that of voluntary self-renunciation of relative goods *ad numen placandum*, lead ultimately only to the distortion and destruction of that idea which man forms within his own mind of God. In place of the true, eternal, holy God, there enter deities of man's own making and devising, which are to be satisfied with relative external offered gifts, and thus are not holy. And so every attempt at a redeeming of himself only leads man farther away from God.

B. THE DIVINE ACT OF REDEMPTION AS SET FORTH IN
REVELATION.

§ 137. *The Mystery of the Personal Life within the Godhead.*

Sinful man is not able, either practically to redeem himself, or theoretically and speculatively to form an estimate by his own powers of the nature of a true redemption. In contrast to man's impotence there now appears the divine act of redemption in Jesus Christ as the revelation of the mystery of eternal love or of the gracious counsels of God. This act of redemption has its origin from God, and is traced back to a mystery of the eternal inner relations of life within the Godhead as its primal source. According to the perfectly uniform testimony of the Synoptic Gospels and of the apostles, the Lord Jesus Christ is the object of divine worship in the Church (1 Cor. i. 2), it is by Him the universe of being exists (1 Cor. viii. 6), who was before all creatures (Col. i. 16), in whom the fulness of the Godhead dwells (Col. ii. 9), to whom all power in heaven and earth is given (Matt. xxviii. 18), before whom, as before the Lord God, John the Baptist went (Luke i. 16, 17), who was born in Bethlehem, and is yet the Lord, who of old went out before Israel (Matt. ii. 6; comp. Micah v. 1, 2; 1 Cor. x. 4), who though He was rich became poor (2 Cor. viii. 9), and who sets Himself above the angels (Mark xiii. 32), and declared Himself to be the Son of God in such a sense as to His enemies appeared blasphemy (Matt. xxvi. 63-65; comp. John v. 18),—in the sense of a personal self-reproduction of the divine essence,—so that after all this the Apostle John says nothing new when, in dependence, not upon Philo, but upon the targumist theology,¹ he calls Jesus the Word, in whom God

¹ Philo has likewise adopted the targumist phrase, but with him the Platonic doctrine of κόσμος νοητός and κόσμος αἰσθητός is combined, and hence an ἀνωτάτω λόγος is distinguished from a λόγος προφορικός. Of this specifically Philonic distinction of two different λόγοι there is no trace

eternally expresses to Himself the content of His eternal being (John i. 1-2), by whom He created the world (ver. 3), and who then became man (ver. 14). The question of historical criticism, whether this testimony of the apostles is true or false, in other words, whether among Israelites so strictly monotheistic belief in the Godhead of a man could have existed, unless this man had shown Himself to be indisputably a God who had become man, does not here concern us, but belongs to the second part. We have here to do simply with the revelation of the gospel of Christ, as it appears in the sources of Christianity and constitutes the faith of the Christian Church of all ages, and we have only to ask, whether the contents of this revelation is in agreement or in contradiction with that knowledge of God to which we are led by the facts of nature and of the natural human consciousness. Now we have recognised in God (§ 93), apart from and before the expression of His will to create the world, an eternal content of being within the Godhead, and that this content of being in God is love (§ 97), and likewise, that love only exists as a personal relation of will toward a personal being. This leads necessarily to the conclusion or impression that in God Himself, as belonging to His inner divine nature, there is an eternal relation of love between an I and a Thou, a making of Himself an object by setting forth His own nature as a Thou, and a reconciliation of this personal antithesis by a return to identity in the content of the Spirit. This impression, which we can express only in a stammering fashion, is confirmed to us in the revelation of the divine fact of redemption, which leads us back to the eternal mystery of a personal life in God within the Godhead as its primal source. God as Father expresses Himself in an eternal timeless act to His own self (John

in John, but only the simple idea and phrase of the targumist theologoumenon, which was grounded in the revelation of the old covenant. See a more complete statement in my *Gospel History*, § 147. Edinburgh, 1863: T. & T. Clark.

i. 1, 2) in a substantial personal Thou, which itself is God (John i. 1), which belongs to the being of God. Just as in the word expression is given to the thought and the word is in respect of contents identical with the thought, and yet in respect of subsistence is distinguished from it, so that the thought becomes in the word its own object, the Thou in God is set over against God as the object of God's vision and will, and because the ultimate content of this vision and will is love, it is a love which is the object of the Father's love, and therefore, because love is no mere abstract quality but a relation toward personal being, a loved one who stands to the loving Father as object and product or replication of His love. This same revelation tells us, that God is Spirit, and yet speaks again of the Spirit of God as the third alongside of the Father and Son, so that we acknowledge that the personal antithesis of I and Thou in God Himself is mediated in the personal unity of the Spirit, who is God embracing Himself in His unity. This is the mystery of the inner relations of the Godhead, from which as its primal source proceeds the divine act of redemption as an operation of God upon the creature.

§ 138. *The Divine Act of the Redeemer.*

We now turn to consider and treat of this divine act itself.

A. He who in God as the eternal Ego stands over against the eternal Ego of God in the exercise of His love, the eternally Beloved, in whom the eternally loving One has made of His own being, love, a personal object differentiated from Himself—that is, the Son, who Himself is love, has His whole course determined by love, and, in practical proof of His love, in the eternal counsels of His will, passes out from the extra-temporal form of being in eternity into the temporal form of being. The eternal absolute Ego of the Son in God resolves in the eternal counsels of His own will, in harmony with the counsels of the Father's will, to exist in time as an individual Ego, as a human living monad. He enters within

the limits of the nature which still, because of the fall of man, is always impure (§ 129 and § 133), as a slumbering (yet according to § 123, *B, b*, still self-conscious), living monad into the womb of a human mother,¹ rears, organizes, and inspires a mortal body, but one free from that disharmony which is the consequence of a sinful condition (§ 119), a body, therefore, like that of our first parents before the fall. He is born as a man, and there is now also in Him the eternal being of God, absolute love, present under the form of human will, of human self-determination to the law of God the Father, therefore an absolutely holy will, but also giving proof that it is human by the freedom of choice. "The eternal divine determination to become man," the Dyothelete Maximus rightly remarks, "gave scope to the temporal-human will of the God-man for self-determination in the form of human volition."

B. But since the Incarnate One enters into historical connection with sinful humanity, He endures from the first moment of His life to the last all the consequences of the sinful condition of the world. The body, which He has assumed, belongs to the unglorified nature, capable of suffering and liable to death, His living monad is bound to a mortal body (comp. § 129 and § 132). Inwardly and outwardly must He, the Sinless One, suffer from the theoretical errors, and moral perversities, or wicked individuals surrounding Him. He must suffer inwardly, because the presence of sin around Him was to Him the occasion of profoundest sorrow. He must suffer outwardly, because, in refusing ever to violate truth and holiness, He brought down upon Himself the hatred of sinners. Then, finally, He suffered the death which this hatred prepared for Him, which He could have escaped only through violation of the truth, through connivance at moral errors, and in this death He endures the

¹ That He cannot be begotten of a father is self-evident. An Ego, which already is, can never by any possibility have it said of Him that He is begotten. On the idea and nature of generation, see § 123, *A*.

absolute penalty of that sin which was absolutely foreign to His nature and will. Thus has He, as one exercising will in the form of human freedom of choice, firmly and constantly put from Him the temptation to evil, and thus, under a severe trial, has He rendered what the first man, under the more simple primary trial, failed to render.

C. While the incarnate Son of God unfailingly exhibited perfect sinlessness, holiness, and love to God, He has thus, as a sufferer, endured the penalties of sin, not indeed in the form of pain from His own consciousness of guilt, but in the form of a similarly intense pain and pang of agony for sin absolutely foreign to His own being. The sinner is conscious of a disharmony between his nature as it came from God and his will and nature contradictory thereto, and Christ was conscious of the disharmony between His divine holy nature and will and His being that had been made subject to the penal consequences of sin, to mortality, and so also to the attacks of sinners. While in sinful man the contradiction between the moral law and their own will and self-willed evil was the source of pain, Christ certainly bore the pain of contradiction between the moral law, that is identical with His own nature and will, and the evil that was strange to Him, which was directed against Him, and endured by Him. And while sinful man brought upon himself the suffering of death for his own determined act of will toward evil, Christ endured violent death for sin that was not His own. The eternal God as such, the triune as the ruler of the world, suffers not for the sin of the creature. Surveying the universe of nature and history in the eternal present, He beholds sin as eternally overcome. On the other hand, the Logos in the temporal form of being of man bore, as a sufferer, the sin of the creature.

D. Thus we have now in Christ a sinless God-man, who though Himself guiltless, has borne the consequences of sin even unto the enduring of bodily death. But with his death His life in the unglorified corporeity fulfilled its purpose and attained its end. It was not the real substantial human

nature which the Incarnate One surrendered, but existence in the unglorified, mortal corporeity, which was ordained only for the period of temptation and suffering, *status explorationis*, and, at the same time, *humilitatis*. After He had, as the beginner and author of a second humanity, constantly put away from Him the temptation to evil, and had in the form of human self-determination and free choice constantly formed a self-determination for the good, which was His own eternal nature, and had in consequence of this experienced the enmity of evil even unto the suffering of death, there was opened up before Him as the first-fruits, that higher rank in nature (§ 133) to which the first human pair would have already been introduced had they under temptation decided for good and not for evil,—that rank in nature of which the essential characteristic is that the intelligent living monad is not one that is bound in the body and by the body, but one that unconditionally and unlimitedly rules the body, that thus the body is no more conditioned by outward universal nature, but that the living monad is sovereignly dominant over external nature in the rearing and upholding of its own body, and finally, that it inspires its own body not unconsciously and involuntarily, but willingly and knowingly permeates it (comp. § 133). Endowed with such power and self-endowing, the self-conscious living monad of the incarnate Son of God took possession again of His body that was dead, and in a sovereign and unlimited way not only inspired and revived it, but transfigured it in accordance with the laws of glorified corporeity. In such a glorified body Christ rose from His grave, and then ascended into that region of creation, into which sin has never penetrated, in which, therefore, that macrocosmic rank of nature corresponding to His glorified microcosmic nature was present from the first and still is.

Obs.—In the light of the principles here laid down, every one who is honestly concerned to know the truth will conceive and understand the life and work of the Lord, reported originally in the Gospels, as thoroughly congruous and harmonious, even when

we regard the minute details of His individual life. In my *Gospel History* (Part i. div. 2) I have given the proof of this uniformity and absence of contradictions in details, and I have shown that the inner contradictions and inconceivabilities, which David F. Strauss and others think they have discovered in the biblical life of Christ, are not inner contradictions in it, but only contradictions between it and the pantheistic pre-suppositions imported by those critics.

§ 139. *Fruit and Power of the Divine Act of Redemption.*

As the living and glorified One, Christ is now able, through the mediating influence of that Spirit (*πνεῦμα*), in whom the twofold mode of life within the Godhead between Father and Son is brought in an eternal reality into a living unity (§ 137), to communicate the sin and death conquering powers of His glorified person and of His glorified life unto those who freely and heartily confess their guilt (§ 123, *Obs.*) and seek their salvation in Him alone, and thus receive Him in the exercise of a faith born of repentance.

A. He enters into oneness of life with them (Eph. iv. 15, v. 23; Col. i. 18; John xv. 5-7; Gal. ii. 20), as the vine stock with the vine branches, as the head with its members. To receptive faith on our part Christ answers on His part, as the head and source of life to the universal organism, by implanting us, by the Holy Spirit, which is now likewise the Spirit of His glorified humanity, as members of His microcosmic body (Eph. i. 23), that is, raising us into monads of a lower order which are inspired and governed by Him as the central monad. Thus in the first stage the believer receives Christ: Christ is his, and he is Christ's.

B. The believer on his part in his isolation, as an individual sprung from sinners, belonging to sinful mankind, has no more any standing before God. He has confessed and daily confesses anew and ever with clearer consciousness, that with his good works that are only relatively good, partly sinful, and partly, at least, infected with sin (comp. § 136), and with his own powers, he has never fulfilled the claims of the

moral law, and never can fulfil them or redeem himself, that he cannot be justified before God the judge. For the moral law requires not merely particular and merely relatively good works, but (§ 101) that the whole life from first to last be a life of constant, undeviating love to God; it claims that the whole of life should be sinless and holy. And just on this very ground, the believer knows beforehand that even that goodness which has from the time of his believing been wrought in him by Christ's Spirit, cannot justify him before God;¹ in the first place, because God's moral law requires not merely a holy fragment of a life, but a complete holy life; and, in the second place, because here below even the holiness wrought in us by Christ's Spirit remains imperfect (see below under *C*). Therefore the believer will be justified before God the author of the moral law, only in so far as Christ, the righteous One, has been appropriated as his own. Since, then, Christ's person has implanted me, the believer, as a member in Himself, I become a part not only of Christ's person, but of all that is Christ's, hence above all of Christ's righteousness, that is, of all that Christ, without my participation, wrought and suffered. The holy complete life, in which He absolutely satisfied the moral law, and bore the suffering of absolute pain, which He guiltlessly endured as belonging to His person, is imputed to me with His person, is my real property, and so Christ's sufferings become a vicarious expiation, by means of which all guilt and even my own individual guilt is objectively and actually expiated. Thus do I receive directly in faith perfect justification or righteousness before God, the author of the moral law, as once and for all absolute and complete, because the absolutely righteous is mine, and I am His.

C. In like manner, however, with the burden of the consciousness of guilt what hindered the return of heart and will to God (§ 118 and § 136) is taken out of the way, and the self-determination of the will to the love of God is made

¹ Compare my work: *Sola!* A Scientific Illustration of J. T. Beck's *Doctrine of Justification*.

possible. With the removal of the burden of the consciousness of guilt, we are delivered from the endeavour to flee from God. We no longer think of God as an enemy, as a dreaded judge, but as a reconciled Father, and out of the consciousness of sonship arises love to Him, who has so loved us as to give His only-begotten Son, and in and with this spirit of sonship and love streams in from Christ, the glorified head, the power of the glorified, heavenly life into believers, by reason of which his living monad is transformed (born again) into a centre of a new life (the new man, Eph. iv. 24; Col. iii. 1, 10), from which the circumference is gradually sanctified and renewed. For there is still present in the body that disharmony of impulse (§ 119), there is still present in the realm of spirit or thought the complex of theoretical as well as moral errors appropriated or self-produced under the dominion of sin (§ 120), and both constantly react upon the will of the regenerate ego tempting to evil. By reason of the ever again renewed exercise of the consciousness of sonship, by reason of the laying hold upon the righteousness objectively acquired from Christ and offered us in His person, obtained anew after every stumble in the exercise of penitent faith, both of those departments upon the circumference, the realm of thought and corporeity, are gradually sanctified from the regenerate centre, the old man is gradually—in this bodily life always indeed only imperfectly—subdued and slain, and the old man must be slain, if he is not gradually to obtain again dominion, if the consciousness of sonship is not to be choked again by wanton sinfulness and the hot iron in the conscience (1 Tim. iv. 2), and the new man to be thus himself slain.

D. But where sanctification is being carried on and the old man crucified (Rom. vi. 6), the good will gradually transform the man into another nature, the evil will more and more be driven out from the centre to the outermost point in the circumference, so that it only now remains in the corporeity (*σῶμα τοῦ θανάτου τούτου*, Rom. vii. 24), as a more and more powerless propensity, until by the death of the body,

which, for believing, sanctified Christians is indeed the last still to be endured consequence of sin, the *ὀψώνια* to be paid them, Rom. vi. 23, but is also the final emancipation from sin, the living monad is wholly freed from this body and with it from the condition of sin, and enters into the full peace of life in Christ (Rom. xiv. 8; Phil. i. 23), in order thereafter by the resurrection (1 Cor. xv.) to enter on participation in life in a glorified corporeity.

C. THE TRUTH OF THE GOSPEL REGARDING THE DIVINE FACT OF REDEMPTION.

§ 140. *The Gospel no Human Invention.*

We have here set forth in brief summary the nature of redemption as this is declared and revealed to us in Holy Scripture as good news, or the gospel. Man, all mankind, could not of themselves discuss, or imagine, or invent, or *a priori* construe this saving plan of God. Sinful man, indeed, inclines (§ 136) always and necessarily toward the idea of self-redemption, and to their sinful pride the God-appointed redemption by the incarnation in the holy life and vicarious suffering of the Eternal Son of God appears to be foolishness and an offence. But just in this have we the surest guarantee, that this word of the cross, this gospel of Jesus Christ, is no product of human subtilty of thought, no cunning device of men, but real divine truth.¹ But while, indeed, this way of salvation could never have been devised by man, it comes, on the other hand, to be distinctly seen that (a) it wholly and exactly answers to and satisfies the present requirement of a redemption, and (b) it is in no particular contradictory to that which has had its truth attested from the facts of nature and consciousness.

¹ And if truth, then let every one consider what fearful guilt he takes upon himself when he casts behind him this supreme act of his eternal Creator's love.

§ 141. *The Divine Act of Redemption in Christ corresponds to the Requirements of Redemption.*

It has been made perfectly evident (§ 118 and § 136), that the consciousness of guilt in the sinner is the specially fundamental hindrance which makes every scheme of self-redemption, every plan for the movement of the will once given over to sin back toward God impossible. This consciousness of guilt must therefore be taken out of the way, must be removed, if a new love to God is to be awakened in a man. We saw (§ 136) that man is not himself in a position to do away with this consciousness of guilt. This reproving and condemning voice, this consciousness of guilt, is indeed nothing else than the actual manifestation of the moral law, that is, of the divinely willed inmost being of man, by means of which man is man, and is distinguished from the animal existences that have no personal being. And the ethical law manifests itself in man as a condemning voice, as consciousness of guilt, because in man there is present a determination of will and a condition which contradicts that law, which is the nature and the vocation of man. The consciousness of guilt has for its cause the actual objective present existence of guilt, that is (§ 123, *Obs.*), the incongruity of what is with what ought to be. And hence this consciousness of guilt, this consciousness that I am not what I ought to be, is the last remnant of truth in the sinner. Every attempt on the part of man to minimize this consciousness of guilt and get quit of it, is at once to be regarded as a denial of this remnant of truth, a self-deception, as though man still were what he ought to be, that is, as though he ought to be no more than what he actually is, and as consequently an outrage upon what is innermost in the nature of man. On his own part, therefore, man cannot do away with the consciousness of guilt that cripples his will, without sinking still deeper from sinfulness into the sleep of conscience and induration. God alone is in a position to remove the consciousness of guilt. But not in such a way

that he should simply declare to man, "thou oughtest to be excused for not being what thou shouldest, for not answering to the moral law, to thy vocation, to thy innermost nature as willed by me, there is nothing to be said, no blame to be attached to thee: thou shouldest nevertheless be perfectly happy, enjoy peace and blessedness;" for what would this be but either a contradiction in God, who would at the same time not will that which He wills as the vocation and nature of man, or, since that is not conceivable, a deception of man on the part of God, as if God were saying to man, "there is indeed an actual contradiction between thy will and being and thy duty and nature, a dissension and disharmony and a rent in thy innermost self; but thou oughtest by no means to feel and understand this dissension as being, what in truth it is, a dissension; thou shouldest therefore deceive thyself." And even this would not be conceivable without assuming a contradiction in God Himself: "I have indeed thus determined that man in accordance with his nature should acknowledge me as his God, and that this acknowledgment of God should be carried out to perfection, that is, that man should love God; he is, therefore, according to his innermost nature so intellectually organized, that he can attain to *εὐκρασία* in himself, to inward peace, only if he acknowledges and loves God; but now I am willing that he should attain even without love to God to *εὐκρασία* in himself, and to inward peace." This would be to overthrow completely the very nature of man and the fundamental law of his vocation. It would be to reduce man from a being who could find satisfaction to himself only in personal love to God into a being who can find satisfaction to himself even without love to God, who, therefore, is not destined by his nature to the love of God. This, then, would be to strip man of that which makes him man, and to reduce him to a beast. No, God cannot annul, cannot overthrow, the consciousness of guilt, this last remnant of truth in the sinner. He must acknowledge it as truth, must utter His divine yea and amen to the declaration of conscience,—“by thy sinful

state and sinful will thou hast deserved the pain and agony of death,"—of death, that is, not merely of continuance in the state of the unglorified, mortal nature, or of the liability to bodily death conditioned thereupon, but of death in the full deep biblical sense of the word, separation from God the eternal source of spiritual, moral, and bodily life. (See the *Obs.*) God, just because He cannot contradict Himself, cannot destroy the consciousness of guilt, so long as the guilt still continues. He can remove man's consciousness of guilt only by removing and cancelling the guilt itself. Now the redemption wrought by God consists in a divine act, by means of which the consciousness of guilt was removed while full recognition of its truth was made, and full acknowledgment made of the existence and reality of the guilt. God did not remove the consciousness of guilt while the guilt itself continued to exist, but that He cancelled the guilt by an expiation, which was as truly an objective fact as sin, together with the state of guilt, is a fact. He has caused amends to be made in fact, and an expiation to be offered for guilt. God is the eternally objective to Himself, that is, as that personal eternal Word, in which God gives expression before and to Himself in eternity to His own eternal nature, love,—the Only-Begotten of the Father, who is eternal love, just as the Father is,—resolved to enter into man's temporal mode of existence, which by reason of sin has an impure natural development and an abnormal historical development, and, though sinless and guiltless, to expose Himself to all the consequences of sin, to exhibit in Himself God's judgment upon sin, to endure the absolute agony for sin, but only as holy agony (§ 138), and therewith even to enjoy the experience of salvation, that is, of a blessed union with the Father, seeing he was forsaken of the Father, and felt himself wholly given over to the rage of the powers of darkness. Thus has he the guiltless, really, in actual fact, since He endured the consequences of sin, made amends for guilt, and so made an atonement. Whoever unites himself with Him in faith, and is consequently received

by Him into the relation of organic union of the members to the head, of the subordinate monad to the central monad, to him really belongs with the person of Christ that which this person has wrought. The expiation is imputed to him which Christ wrought without one participation, and so it is purely vicarious. In this way the guilt of believers is cancelled, and thus the consciousness of guilt is removed while a perfect acknowledgment of its truth is made, a perfect acknowledgment that there was really existing guilt. Conscience is absolutely set to rest, without by any means being lulled to sleep. Indeed, quite the opposite of this is the case, for before it is put to rest, it has been awakened and quickened. The same divine act which, by the removing of the consciousness of guilt, renders return to the love of God possible, forms itself at the same time the strongest impulse to the love of God. For how should one who was redeemed at such a cost any longer lightly sport with sin? Would he not rather shudder before sin? Would he not with thankful heart love Him again who had so loved him, even unto death?

Obs.—Death in the profounder sense. A will and endeavour, which never come to an end, because they always set before them false ends, and which therefore lapse into *ματαιότης*,—a perception which, because it takes what is relative for what is absolute, is entangled in errors,—a comfortless struggle between proud self-seeking and slavish love of the world,—the expectation of the bodily dissolution without an expectation of anything beyond this bodily death, and yet with a foreboding fear of a consequent condition, in which the will continues to desire insatiably, while it is robbed of all the idols which it served, all the enjoyments and goods in which it delighted, and at every turn the sting of an evil conscience, self-reproach, which says, “this thou hast deserved, for it was thy will which set itself in opposition to thy nature and thy vocation,”—this is the death, which is the merited doom, which the consciousness of guilt represents to the sinner as his desert. And while even the endless continuance of this misery is not, as the quantitative measure of the penalty, to be regarded as the measure and standard of the quantitative magnitude of the fault, it is to be remembered that eternal, or more properly, endless destruction is never anywhere in Holy Scripture represented as the punish-

ment of simple sinfulness. It is always represented as the punishment only of dominating sin, of hardened refusal of redemption. This is first expressed in Isa. lxvi. 24. It is, in Rev. xx. 6, distinguished as the *δεύτερος θάνατος* from death, which is the wages of sin, and as the consequence of the fall (Rom. v.) is described always simply as death. (Just for this reason, then, it was not requisite for an atonement for the guilt of sin, that Christ must as our substitute have endured the endless duration of this state of death.) But even if this were not so, it may easily be understood that that condition of the misery, decay, and agony of simple *θάνατος* would actually continue for ever, unless God had wrought a redemption; and further, that it always comes to be actually endless in the case of those who, under the influence of dominating sin, cast away His redemption from them, and so for them is transformed into the *δεύτερος θάνατος*.

§ 142. *Christ's Incarnation and His Miracles are conceivable.*

There is no contradiction between the redeeming work of Christ and those truths which we have gained from a consideration of the facts of nature and of consciousness. Some have thought that they had discovered two such contradictions: (a) It has been supposed that the incarnation of the *λόγος* was in itself inconceivable, and with this there is generally associated a doubt as to the miracles of Christ; and (b) that the incarnation of the eternal Son of God for the redemption of man stands in contradiction to the fact that the planet on which men dwell is small, and is but one of many.

A. We shall first of all put the former objection to the proof.

(a) In its crudest form, recently reproduced by Schenkel, it affirms that the idea of a God-man is self-contradictory. He who is God cannot become man. One and the same Ego cannot be at once God and man; for the being of God consists in Omnipresence, Omnipotence, and Omniscience, but the being of man is a mode of existence limited to a particular portion of space and time. This objection is so irrational, that it may be disposed of in few words. For how can the being

of God consist in Omnipresence, Omnipotence, and Omniscience, or briefly in the relations of God to the creature? According to this, the being of God would exist in the relations of God to that which is not God! That which is not God, that is, the creature, has received its being by the will of God, and even he who would deny Him, and would say in an emanational or pantheistic sense, that the creature has its existence not from the free, determining will of God, but from a necessary process in God, even he must always still ascribe to God a prius, a being before the existence of the world, before not in a temporal, but in the modal sense of causality. He must admit a being of God, which lies at the basis of the existence of temporal things, and must therefore ascribe to God a substantial being in Himself, which was self-existent before all existence in time and space, and apart from the existence of all such existence in time and space. In this his own substantial being must the being of God consist; in other words, in that whereby God is God, but not in the way or form of his relations to the creature made by Him. Those so-called metaphysical attributes of God: Omnipresence, Omnipotence, and Omniscience, are evidences and demonstrations of His universally determining and universally regulating relation to the creature, and therefore, the being of God cannot consist in them. But His being, so far as our finite nature can give a stammering utterance on such a theme, consists in eternal holy love, which posits in itself the antithesis of I and thou, and eternally reconciles this antithesis in itself. From this love first originated the will of God to call into being a creature which is not God. It is for the determining wisdom of God to say into what relation God will now enter with this creature. First of all, He stands in relation to the creature occupying space and time as its eternal Creator and Governor, that is, outside the limits of space and time. Since, however, He now makes Himself known to the creature destined to freedom, not only as its Creator but as its Redeemer, in a free act of love, causing His

eternally objectified Ego, the Son¹ or the Logos, to enter into space and time, and here first manifesting (or revealing, as it is put in John xvii.) the absolute full measure of His love, that is, of His being, the incarnate Son is just for this reason actually and truly God, because He is the eternal Ego of the Son entered into the relations of time,² and He has not on account of this entrance into temporal relations ceased to be God and to be a partaker in the divine nature, because He actually and truly, even in His temporal mode of existence, is the eternally personal absolute love in which the being of God consists. When He exchanged the mode of formal relation to the creature that was above space and time for the historical mode of relation to the creature within the limits of space and time,—the form of being superior to and surveying all times and places for the form of a development in history and of a gradual advance in knowledge, which was, however, always free from error (comp. § 109, *b*),—He did not thereby lose the eternal nature of God, holy love, but gave to it for the first time a practical manifestation. Yea, when He hung naked on the cross, and had surrendered all, even to the blessed experience of oneness of being with the Father, and there was now remaining only the giving and not any longer the experiencing of love, when He had thus given practical proof that He is love, absolute love, when He had thus given

¹ It is not as incarnate (as Servetus maintained), but as the eternal Ego in God that He is first designated Son in Holy Scripture, for in 1 John i. 2 (*ἡτις ἦν πρὸς τὸν πατέρα*) the eternal relation of the Father to Him is already described as the relation of a father. Compare Huther's commentary on the passage, as well as my own.

² The Christian Church has rightly repudiated as unscriptural and irrational heresies, on the one hand, the Nestorian theory, that a *υἱὸς θεοῦ* had united himself with a *υἱὸς ἀνθρώπου*, and that these together as two constituent parts formed the Immanuel; and, on the other hand, the conflicting Monophysite theory, that by the mixing of the attributes of the two constituent parts a mixed nature was called into being standing somewhere between God and man, superhuman and infra-divine. The Church has, on the contrary, ascribed to the Incarnate the unlimited fullness of the Eternal Being of God in the real and true human mode of being in time and space. See my *Kirchen und Dogmengeschichte*, Erlangen 1865, vol. i. § 48 ff.

practical proof of the omnipotence of the eternally omnipotent love and secured its realization in time, the Omnipotence which accomplishes an act of love in the limits of space and time, the realization and carrying through of which is no less a matter than the saving from destruction of a world created by an omnipotence superior to the limits of time and space, no less a matter than the carrying out of the world purpose as laid down in the creation, which had been thwarted by the decision of the will of the creature. And so has He proved Himself in that act of uttermost renunciation to be the Son of God. Hence, then, this love too, after it had been traced back and reduced to its innermost being, to the very root of its nature, has the property of omnipotence for creatively producing from this its root the new *κτίσις* of the higher, glorified order of nature, and of doing this upon its own (Christ's) person, as on the first-fruits and the organically central monad of the new creature.

(b) But it has also been questioned by some, whether it is agreeable to the universal nature of the self-conscious Ego, that an Ego comprehending the universe as its object should reduce itself to a position within the limits of space and time, and become an Ego thus restricted and limited in its consciousness. This question becomes the more serious when we consider, that the Son of God in His incarnation has first of all assumed the form of an unconscious, slumbering life-germ in the womb of a human mother, in order to rear up there an embryonic body and to animate this body with a soul, and then to be born as a weak, as yet unconscious, child, to awaken gradually to a consciousness of the world, and then just like any other man to learn to know the world as nature and as history. That this act of self-renunciation is not in contradiction with the nature of deity, we have already seen; but whether it is not contradictory to the nature of personality, of self-conscious personal existence in general, is a question still to be answered. The answer to this question, however, lies in the already proved (§ 53 f.) distinction between the

content of spirit and the reflective consciousness, and in the proposition, demonstrated in § 58 f. and § 123, that, even in the slumbering embryonic condition, just as in dreamless sleep, only the world-consciousness but not self-consciousness is arrested, the latter being still active, though only as a subjective experience apart from the limitations of time and incapable of making time-distinctions. The incarnate Son of God was, like every human soul, even in its embryonic state, a self-conscious Ego. And just as every man in respect of spirit-content is more than he himself at once can be conscious of, so also, when the Son of God once resolved to enter into the human mode of existence and appear in the form of a life-germ still united to an unglorified corporeity, He was not excluded by the limitations of His human consciousness from bearing in Himself the eternal spirit-substance, that is, His divinity, just as well in the temporarily unconscious form, just as every man bears in himself a comprehensive spirit-substance, without being able, in this life of unglorified corporeity, even to become fully conscious thereof.

(c) One more question remains:—Is it possible to assume an identity between the eternal Ego of the Son of God as a person in the Holy Trinity exercising sovereign rule over the world, and the Ego of the Incarnate One confined in His consciousness within the limits of space and time? The answering of this question is rendered easy in an illegitimate manner, when one represents the matter to himself as if the Son of God had first been eternal for a long time, and then entered into time. In eternity, that is, in a condition transcending space and time, there is no “long time,” no “first,” and no “then.” To the consciousness of the Incarnate, indeed, His eternal being represents itself as lying in the past in reference to His temporal human consciousness (John xvii. 5, etc.), although He knew that this apparent past was an eternal present (John v. 58, “Before Abraham was, I am”). There is in human consciousness as such, this conditionateness, that man, standing in time and space, cannot form for himself a

picture of eternity in itself as free from space and time, but represents it under figures borrowed from space and time (as John xvii. 5), while He can, nevertheless, form an idea of it (John viii. 58). But although eternity might represent itself to the Incarnate as past and as future (John xvii. 5), His eternal being was in itself not temporal but supra-temporal, and so the difficulty of the question presents itself again in all its intensity. The solution of it, however, lies just in the supra-temporalness of the eternal Ego of the Son of God. Before this Ego surveying all times there lies in His eternal aspect not only one or other of the portions of the life of the Incarnate, but the whole course of His being within the limits of time. But by reason of the resurrection of Christ the limitation of consciousness as well, that condition in which the Ego is united with an unglorified body, is taken away. The self-conscious life-germ, no longer bound by the body, but absolutely ruling and pervading it, is in conscious possession of its whole spiritual content. The consciousness of the exalted Christ is in perfect harmony with that of the eternal Son of God. The Ego of the eternal Son, because it regards the Incarnate One always in reference to the whole course of existence in space and time, inclusive therefore of His exaltations, regards this not as something foreign and different, but as belonging to Himself. In the consciousness of the exalted Christ there is the celebration of the espousals of time and eternity, the filling of the time-form with eternity contents.

(d) Finally, there are some who take offence at this miraculous character of the sacred history; but over this objection we can scarcely linger beyond saying a single word. The possibility of miracles as such has been already proved (§ 134). Christ Himself, in respect of His person, is pre-eminently the miracle, the principle of all miracles. Into the nature that was constructed with a design to meet the contingent occurrence of the fall, He enters as the Redeemer from sin, by means of whose work, therefore, the purpose, for which nature was so constructed, is annulled and overthrown.

He enters therein as the essential originator of another development of man and human nature, freed from the bondage of sin, over against which, so soon as it has been accomplished, the present unglorified order of nature must appear to have failed in reaching the end, and must therefore give way to the glorified. And in Him, as the first-fruits, it has been obliged already to give way. His resurrection was the transition from the unglorified, mortal nature, to the glorified nature, that is, delivered from death and the possibility of death. Thus Christ's resurrection is the central miracle. But at the basis of this physical central miracle lies the ethical miracle of love, the incarnation of the Son of God, the entrance of the eternal Son of God into the limits of space and time, as a human life-germ, which rears itself an unglorified body in the womb of the virgin mother, in order that He might suffer death as an atonement for human guilt. The conception of Jesus Christ in the Virgin's womb is not only not contrary to reason, but every other acceptance would be contrary to reason, unless one rejects altogether the incarnation of the Son of God, and with it all that is characteristic of Christianity. Senseless indeed, first of all, is the explanation that the eternally existing Ego had first been begotten in time by human parents, a father and a mother,—doubly senseless, since an existing one cannot first come into being, and since the temporal can beget nothing that is eternal. Senseless also is the second supposition that human parents, father and mother, had begotten a human life-germ, therefore a man, with whose Ego the Ego of the Logos somehow was united; in this case we have either two Egos in one person, which is nonsense, or a mere (Nestorian) *συνάφεια* of two persons, which is unscriptural and overturns the whole substance of redemption. There remains now only the third supposition, which is no less senseless, that human parents, a father and a mother, once begot in an exceptional way not a life-germ but merely the germ of a body not yet quickened, into which was introduced the pre-existing Son of God as the life-germ

communicating a living soul. But it is contrary to the divine law of nature that parents should beget instead of a living germ a mere body. Were this to happen, it would be a miracle. One would then have, in place of a true miracle in the proper place, a perverted one in a false place, and one, indeed, that was superfluous, since the Son of God entering into a virgin's *ovulum* as a living germ, in order to excite to embryonic development an *ovulum* prepared for the purpose by the operation of God's Spirit (Luke i. 35), needed not to have already lying before Him a body begotten of human parents. Thus then the incarnation of Christ, as the entrance of the eternal Son of God into the limits of time and space, and into unglorified nature, is the ethical miracle of love; but the resurrection of Christ, as the entrance of the unglorified nature into the glorified, is the physical central miracle. Around the latter, and on the basis of the former, are grouped those separate symbolico-prophetic miracles, partly redemptive, partly threatening the doom from which He would have men delivered, which the Lord, partly Himself and partly by His disciples, performed in His official capacity and not otherwise, and in the power of an endowment bestowed on Him by the Holy Spirit (Matt. iii. 16), not for Himself (Matt. iv. 4), but for His work, whereby His still unglorified nature was gifted with the powers of the higher and heavenly order of being.

§ 143. *The Singularity of the Act of Redemption and Insignificance of our Planet.*

B. We have now the second and last objection to consider: the incarnation of the eternal Son of God for the redemption of the human race is inconsistent with the fact that that planet which is man's abode is but one among many, and small among the rest. We are reminded of the myriads of fixed stars which stretch out into the remotest nebulae, and from this some assume that the universe is practically unlimited in space, and again, that every fixed star has around it its own

planetary system. The former assumption is philosophically inconceivable, and is nothing else than a false conclusion from the true premisses, that we in our subjective thinking are capable of endlessly extending the intellectual conception of space, because we think of every additional piece of space as limited by one lying still farther out; but plainly from this it does not follow that the objective complement of space is unending, since space (according to § 28) is only a form in which the complex of powers act and react on one another, and which constitutes the sphere of their activity. The second supposition, as we shall by and by show in more detail, is on astronomical grounds extremely improbable. But even if we turn away altogether from these two hypotheses, our world quantitatively considered certainly appears, in comparison with the universe known to us through astronomical researches, like a drop in the ocean, and thus the above objection has, on the first blush, some show of importance. To seek to escape it by means of the Origenistic hypothesis, that in different worlds different falls and redemptions (incarnations of God), analogous to our own, may have successively found place, is forbidden us by revealed Scripture's representation of the redemption wrought by Jesus Christ. We are there taught that He is the one and only Son of God (John i. 1), that He suffers death but once (Heb. ix. 12, 25; comp. ii. 9, v. 9; Rev. v. 13), and that the efficacy of His death is absolutely universal (Eph. i. 10, iv. 10; Phil. ii. 10; comp. Heb. ii. 8; 1 Cor. xv. 27). We must therefore answer that objection.

Before proceeding to do so, however, it is not unimportant to observe that pantheism, especially Hegelian pantheism, has no right to raise this objection. For if it maintains that the absolute spirit (in itself neither subjective nor objective) does not in man attain to absolute knowledge of itself (as intrinsic and independent), one may here, and that with far greater justification, raise the question, How is it conceivable that the Absolute, which exists in the universe as independent

being, is to be known in so infinitely small a fragment of this universe as in itself and quite independent by the true absolute? It does indeed seem strange that the Absolute "should come outside of itself" in nature and become objective, and in the human spirit return again into itself; that this should be a characteristic of the Absolute as such, and that now the Absolute "should come to itself" only upon our small planet, and even here not until many ages had passed, for no one doubts that man is the latest of the creatures of the earth! And surely exceeding strange it is that this process of the Absolute's coming to itself should have been brought to a conclusion in the beginning of the nineteenth century by Professor Hegel in Berlin, so that for the "process" of all following thousands of years and ages there remains no longer any content except this, that one must always study this Hegelian system and penetrate by his thinking deeper and deeper into it!¹ It is certainly far more easily conceivable that a God, eternally existent and eternally self-conscious, should have looked upon a single small world (and that a world in which that endowed with organic life occupied, in comparison with inorganic matter, an infinitely small space) as the scene for the manifestation of a free act of love, than that the Absolute should first come to a true self unfolding of itself and to a knowledge of itself upon so small a world.

In order to find the former supposition conceivable, that God should have chosen this single little planet as the field

¹ One, therefore, must agree with D. Fr. Strauss as he passes over from Hegelian to Darwinian materialism (*Alter und Neuer Glaube*, p. 226, Engl. transl. *The Old Faith and the New*), that with man all science will in the future disappear, leaving no trace behind, leaving no memorial in the shape of any sort of spirit,—according to which, then, the development process of the Absolute would amount to this, that, after it had been happily developed into an independent and self-existing being, it should go backwards again, and by a retrograde movement come again into itself—like the men in the upside-down world of the Hammelburger travels, who first die, then are grey-beards, then men in vigour, then youths, then children, at last are born, and last of all are begotten.

for that free act of love, there is no need whatever of assuming that only on this earth are there personal creatures capable of self-determination. It is not even implied that only on this planet have personal creatures fallen into sin. It is indeed quite allowable to assume, that even in other departments of creation personal creatures have entered upon a sinful development, but under circumstances and in a way which excludes the operation of redemption. But if it can now, moreover, be proved from the facts of astronomy, that (a) in our planetary system our earth is the one world which is fitted to be a dwelling-place for a finely organized being of body and spirit (see *Obs.* 1); and if from the facts of astronomy it be shown to be highly probable that (b) our planetary system is the only one of its kind in the whole universe (see *Obs.* 2),—then that alarming question, how a divine act of such singular and absolute significance could have taken place in this world, will have received a complete answer and solution. For from these two positions it immediately follows that our planet is not merely one of the worlds, but a world altogether unique in the universe. I have already, in my work *Der Glaube an die heilige Schrift und die Ergebnisse der Naturforschung*, Königsberg 1861, given the proof of those two statements, and will here in the following observations simply recapitulate the principal points in regard to both.

Obs. 1.—The axiom of physical science, which we assume in this investigation, as to whether a finely organized being can exist on this and on that planet, is the very simple one, that on all planets the same physical and chemical laws hold true as do upon our earth. This presupposition is incontestably true. That the laws of attraction and motion, which we on our earth have learned to acknowledge, hold true of the whole planetary system, since the rotations of the planets around the sun, as well as those of the satellites around their planets, depend upon them, has been proved by Newton. That the laws of light and shade, of the diminution of light according to the square of the distance, of refraction, of reflection, etc., apply to the light of the planets as well as to earthly sources of light, and are constant,

as also the laws of heat, is generally admitted; the principal source of light and heat to our world, the sun, is just equally so for its varied worlds. Spectrum analysis also has shown that the chemical laws of our earth hold good of the other heavenly bodies. It would therefore be a purely fantastic notion were one hastily to assume, that quite another set of natural laws than those of our earth hold true in other planets. If with us on earth an organic being could not continue to live under a cold of 40° Cent. and under a heat of 100° Cent., because in the former case everything fluid would pass over into a rigid state, and in the latter case everything rigid and liquid would pass over into an elastic gaseous state, then the same will be the case in the other planets. If on the earth plants are in need of water, and of a definite measure of light, and of an alternation of light and darkness, then in a world where there is no water, discoverable, or only an extremely weak light, or no alternation of light and darkness, no organism of the plant order can exist, and therefore no animal organism, which as we saw in § 77 presupposes the plant world as the condition of its life.

If, now, we turn our attention to the separate planets we shall find, passing over Neptune in silence, that on Uranus the light of the sun is so weak that its strength stands to that of the sunlight on our earth in the proportion of 20^2 to 386^2 , that is, in the proportion of .0029037 to 1. The case of heat would be precisely similar. Now, according to well-established conclusions of astronomers, the axis of Uranus coincides with the path of its revolution; its poles of rotation lie therefore in the path of its revolution. The time of revolution occupies 84 years of our earth (exactly 83 years 294 days), the rotation on the axis or the Uranus day occupies 7 earthly hours, so that the Uranus year has 105,192 Uranus days. The north pole of Uranus will be shone upon by the sun for half a Uranus year, that is, for $41\frac{1}{3}$ years of our earth, and during that time it is night at the south pole. One placed on the equator of Uranus on the day when Uranus turned its south pole to the sun, would see the half of the sun's disc standing fixed over the horizon toward the south for a whole Uranus day. During the 26,298 Uranus days of the next quarter of the Uranus year, he would see the sun like a little slice of $1' 40''$ in diameter, describing at first a smaller then a larger arc in the heaven, so that it would remain standing over the horizon for $3\frac{1}{2}$ earthly or 12 Uranus hours, and then be for the same period below the horizon. At the end of this quarter it would have described a great half-cycle through the zenith of that dweller on the equator. Then, again, for 26,298 Uranus days the arcs would always be becom-

ing smaller in the northern hemisphere, until, at the end of the second quarter, it would stand rooted again for a Uranus day at the horizon, but this time on the north. Then for the other two quarters of the Uranus year the same process would be repeated in a reverse order. On the equator of Uranus one would therefore twice during the Uranus year have winter, and twice have summer. Each summer and each winter would last for 21 earthly years. During summer one would have the sun with its infinitely little heat right overhead at mid-day; but in winter, when the sun would rise for 21 earthly years only a little above the horizon, and always only for $3\frac{1}{2}$ earthly hours, a degree of coldness would prevail for which we have nothing on earth that is at all analogous. And this equatorial climate, let us remember, would be the most favourable. Still worse would it be at the pole, where for 42 earthly years no sun appears, and where for 42 earthly years again it shines uninterruptedly, and for 21 years stands circling the zenith, and so right over the heads of the dwellers at the pole, where, during that long winter night of 42 earthly years, an absolutely deadly cold must prevail. Even if one should hastily assume that an extreme volcanic heat was found in Uranus which would mitigate the winter cold, the terribly long absence of light at the poles during winter would present a difficulty which this assumption could never overcome. If we would indicate the number of degrees of latitude for any one place on Uranus by p , then the night would last at that place during a fractional part of the year which would be represented by the fraction $\frac{90-p}{180}$, and the day would last for $\frac{90+p}{180}$ of the year. It is evident that with such an alternation of 42 earthly years of light and inconsiderable heat, and an equal length of darkness and probably fearful cold, organic life, even in the lowest of all its forms, is scarcely possible.

On Saturn the sun appears as a small disc of $3' 17''$. The intensity of its light and heat as compared to their intensity on the earth is in the proportion of 26° to 196° , that is, as $\cdot 011262$ to 1. The inclination of the axis amounts to 30° , so that the distribution of the seasons and the climate are similar to those of our earth, only that on our earth 90, on Saturn 60, degrees of latitude belong to the temperate zones. So far the conditions of Saturn seem on the whole favourable. The shortness of the Saturn day, however, amounting only to $10\frac{4}{13}$ earthly hours, as compared with the length of the Saturn year, containing 29 earthly years, is an unfavourable circumstance. According to this, a Saturn year has 24,760 Saturn days. So rapid an alternation of day and night would not indeed be altogether destructive of animal organisms, but would be decidedly hurtful

to a spiritual development of a personal being. Day as well as night would be cut up into periods of only five hours. A second unfavourable circumstance is the slight density of Saturn. Its specific gravity is not even equal to that of water, whereas that of the earth amounts to five or six times that of water. The power of attraction, therefore, in Saturn is so slight that there granite blocks would swim in water, and also that the least pressure of the atmosphere—and Saturn has an atmosphere, for it has clouds—would have the force of a hurricane. Only solid bodies of extraordinary specific weight could there be able to stand steady; but that any such should be there is, owing to the slight specific weight of Saturn, not to be expected. But now there comes in view pre-eminently the threefold ring, which at a distance of 5700 miles encircles that planet, and which has far greater density than the planet itself, and consequently all freely moving bodies, if such there were on Saturn, would be drawn toward it. Hence it follows that freely moving bodies, such as men and animals, are not possible on that planet. But there is also a second unfavourable effect of the Saturn ring. While it would lighten only those who dwelt upon the equator, and even these only throughout the summer and during the day (the heat increasing in an unproportioned way, and with a light which, for organs of vision that had been constructed to suit the weak light of the Saturn atmosphere, must be dreadfully dazzling), he casts over the winter half of the planet his enormous shadow, several millions of miles long, and that continuously for a period of 16 earthly years, so that it thereby intensifies the cold of winter round about the poles to an extreme, and so completely does away with any favourable climatic consequences that would have resulted from the 30° inclination of the axis. Any vestige of vegetation on Saturn is as little conceivable as in the case of Uranus; still less can we think of any animal life existing there. Moreover, from the enormous cloud production which is discovered here, it has been very properly concluded, that in earlier periods it consisted of a semi-fluid rather than a solid mass.

The effect of the light and heat of the sun on Jupiter, where the sun appears as a small disc of 6' diameter, is in proportion to the effect of these on the earth as 20^2 to 108^2 , that is, as .037091 to 1. Its axis, however, stands perpendicular to its orbit, or to be exact, makes with it an angle of $89^\circ 57'$. While then on Uranus there is to one on the equator a terribly rapid alternation of seasons, and to one on the poles alternation of day and night only once in the year, and, on the other hand, no distinction of zones, there is, on the contrary, on Jupiter no alternation of the seasons, but just on this account a pro-

portionally well marked distinction of zones. At all places in Jupiter all through the year, day and night are equal. The Jupiter year is equal in length to 11 earthly years and 315 days, that is, nearly to 12 earthly years; but since the Jupiter day is only 9 hours 56 minutes long, the Jupiter year has 10476 Jupiter days, and these in all zones are of the same length, that is, the day is one of 4 earthly hours and 58 minutes, and the night is the same. The polar regions have always and without alternation the same degree of cold; the equatorial regions have the same degree of heat. In the temperate zones, which have always an equable climate, the existence of plant and animal life would be quite conceivable. This planet, however, would still be unfavourable for the development of intellectual beings,—not merely on account of the rapid alternation of day and night, but especially because of the absence of seasonal changes, the eternal spring-autumn of the temperate zones would entice the inhabitants of Jupiter to lead a sluggard's life, and would awaken no healthful care in regard to the future. A condition like that of the South Sea Islands would ensue. Upon the whole, however, it is in the highest degree doubtful whether organisms could exist there. It has been calculated from the movement of clouds over Jupiter that storms there travel at the rate of from 7000 to 11,000 feet in a second, and even more rapidly. On earth the most violent hurricanes have a speed of 60 feet in the second. Moreover, from various indications, astronomers have reached the conclusion that Jupiter is wholly or in great part covered with water.

We may pass over the Asteroids, those innumerable little remnants of a destroyed planet.

Mars is decidedly in a far higher degree than all the planets previously referred to capable of sustaining organic life. The sun appears there as a disc of 21', while on earth it appears as one of 32'. The intensity of its light and heat is in proportion to the intensity of these on the earth as 20^2 to 31^2 , that is, as 416 to 1. The axis inclination of 30° , like that of Saturn, effects an extension of the temperate zones over 60 degrees of latitude, which is not rendered illusory by any ring. The alternation of seasons, as shown by the increasing silvery look that betokens winter, and the decreasing of snow that indicates the approach of summer, has been observed by means of the telescope. The Mars day is in length much the same as the earthly day, namely, 24 hours 20 minutes: the Mars year consists of 686 earthly days, and so of 676 Mars days. But even if we should assume that organic life is possible on Mars, it is nevertheless quite evident that all the conditions which render such

organic life there possible are to be found on the earth in a far higher degree, and in a much more favourable form. The temperate zones of Mars are only half as warm as ours, and are therefore in reality only frigid zones. Of the 180 degrees of latitude of Mars only 60 of its hot zones can be compared with the 90 of our temperate zones, and would be habitable for finely developed organisms, unless, in consequence of the great extent of the actually cold zones, icy polar currents of air would produce an adverse effect that would be felt down into the summer. Mars cannot possess any appreciable heat of its own. This is proved by telescopic observations of the snow; the zones indicate the truth of this statement in regard to the seasons. In the case of our earth, the inclination of the axis toward the orbit of revolution amounts to $66^{\circ} 30'$, and the inclination of the equator toward the ecliptic is $23^{\circ} 30'$. In consequence of this the two temperate zones extend over nearly the half of the degrees of latitude; they amount to $2(66\frac{1}{2} - 23\frac{1}{2}) = 2 + 43 = 86$ degrees of latitude, and cover $\cdot 51832$, or over one-half of the earth's surface; and besides this, the 47 degrees of latitude which form the torrid zones, and a part also of the frigid zones, are quite habitable. The earth's inclination of axis is the most favourable that can be thought of. By it, as well as by the distance from the sun, a temperature is produced which, since on a great portion of the earth it does not exceed 50° , nor fall below 32° Cent., makes it possible for organic life to exist. The alternation of seasons, too, renders it necessary that men should have a care for the future, should exercise forethought and engage in labour. The distribution and partition of land and water, and the presence of high, but not insurmountable hills, are also contributory to this end.

But now perhaps the two lower planets, Venus and Mercury, will offer more favourable conditions. By no means. Venus is just scarcely so large as the earth. It has a day of $22\frac{1}{3}$ earthly hours, and a year that lasts for $224\frac{2}{3}$ earthly days, or 231 Venus revolutions; but it has an inclination of axis of 72° , nearly as great, that is to say, as Uranus, an alternation of seasons almost as sudden; so that on Venus at its poles there is about half a year of continuous summer and almost uninterrupted day, and an equally long continued winter and almost unbroken night, while on the equator there is every year twice summer and twice winter. If, now, on Uranus, in consequence of the want of intensity there in the heat of the sun's rays, there be this want of proportion, causing a terrible coldness, then upon Venus, where the sun appears as a disc of $42' 46''$ in diameter, and the sun's heat upon it stands to the sun's heat on the earth in the

proportion of 1.87 to 1, the heat would prove dreadfully excessive. If on Uranus organic life, even should such be able to develop itself during the long summer day, would inevitably be destroyed by the cold during the long winter night, then on Venus organic life, which might have developed itself during the relative coolness of the long winter night, would inevitably be destroyed by the enormous, scorching heat of the long summer day, when the sun, with twice the intensity that it has on our equator, continues standing above one of the poles right overhead for a whole quarter of a year. In addition, the excessive height of the mountains in proportion to the size of the planet, some being as high as 32 miles, is an unfavourable circumstance.

Mercury has an inclination of axis almost as favourable as that of the earth, also almost just as long a day, one, namely, of 23 earthly hours, 15 minutes, 44 seconds, of which 87 make a Mercury year. There are three circumstances, however, which render the existence of organisms there inconceivable—(1) The smallness of this planet, which is only 2692 miles in diameter, and so its area only $\frac{1}{9}$ of that of the earth, would afford no scope for the higher development of a rightly endowed being: it has besides, in consequence, a very unfavourable ratio of attraction, since bodies of the density of organic frames would there be hurled by the least impact immediately over the house-tops, and only bodies of a specific gravity of the heavier metals would be able to hold their ground. (2) Mercury has mountains as much as 14 miles high, or $\frac{1}{94}$ of its semi-diameter, whereby the area already so small is further reduced; and in case Mercury should have water, without which no life would be possible, it would lead to a violent and destructive rush of water torrents. (3) The heat of the sun on Mercury, where it appears with a diameter of $1^{\circ} 19' 45''$, is in proportion to the sun's heat on the earth as 6.604 to 1,—a heat under which no organic life of any kind is conceivable.

Thus it appears that of all the planets only Mars in a very small degree, and our earth in a perfect degree, are suited for organic life. One must then be prepared fantastically to admit, that organic life can make its appearance even where there is no water, that is, that these plants or animal cells would be formed from a chemical combination of gaseous with solid bodies, which according to the laws of nature is not possible, or that at 400° Cent. on Mercury water will not pass into steam, or that at -900° Cent. on Uranus water does not freeze! That our moon has no water is acknowledged. With a good telescope we can look down into the crater of the moon, and

even see the shadows of its mountain ranges, with their rugged chasms, down to their lowest depths, and yet discover no trace of water. For this reason alone organic life is there impossible, and no trace of any such has been discovered. The moon appears like a burnt-out volcano. That the sun is inhabited and inhabitable is not now seriously maintained by any one: any conceivable body in an incessant process of conflagration cannot be the scene of organic life. If, then, we say the earth is not a planet, but it is the planet, our statement is capable of justification. In it we find the purpose and destiny of the planet nature realized: to be a dwelling-place for lower and higher forms of organic life. All other planets are only struggling after this end. The inferior planets, through their disproportionately high mountains, as in the case of our moon, are, as it were, moons to the sun; the superior planets, which have a system of moons around about themselves, and are taken away farther and farther from the lighting and heating influence of the sun, are, as it were, suns to their moon. The earth, too, occupies a unique position in this respect, that in it the twofold relation to the sun and to its one moon is perfectly marked and thoroughly carried out.

Obs. 2.—Some have given free expression to the conjecture that outside of our planetary system there are millions of other planetary systems circling round other suns; that each fixed star is a central body around which “probably” its own planetary system revolves. This probability, however, does not go very far. No stress, indeed, should be laid on the fact that no one has yet perceived such foreign planets: we would not expect to perceive them on luminous points, owing to the slight intensity of their merely reflected light and their immense distance; rather than this it might be thought that some one of those million planets, when it had at any time made a transit between its sun and our earth, might make itself observable by a momentary darkening of its sun. But if we consider that a planet of the magnitude of our Jupiter in a transit past a sun of the magnitude of our own, seen from a far distance where the rays would be nearly parallel, would first cover $\frac{1}{8}$ part of the sun’s disc, and so certainly produce no discernible darkening, we shall not be inclined to lay any stress on the fact that there has been no observation of such a momentary obscuration of light in particular fixed stars. Far more decisive than this negative argument in opposition to that hypothesis is the positive fact that an extraordinarily great number of fixed stars have, by careful astronomical observations, been discovered to be double stars, and daily more and more are discovered to be such, that is, to be pairs,

or double pairs, or pairs of double pairs, where mutually encircling one another, the one fixed star rotates around the other, then again the one pair around the other, then again the one double pair around the other. That alongside of such double stars, or fourfold, eightfold, sixteenfold stars, corresponding planets cannot be found is clear, since the orbit of every such planet would suffer incessant aberrations till all rotation would be overthrown, and therewith the very conception and the very existence of a planet. We see then in the case of the fixed stars another law of arrangement prevailing, according to which the existence of the contrast of sun and planets (as that of planets and moons) is undoubtedly excluded. The proposition, every fixed star has its planetary system around it, is notoriously false. We know of an extraordinary number of fixed stars, that they can have no planetary system. In presence of such a fact, the conjecture, that other particular fixed stars have planets, is an extremely uncertain one, which, to say the least of it, cannot claim so great a probability as the contrary supposition, namely, that through the fixed star world another law of order prevails. That in the fixed stars there may be personal creatures, we shall not altogether deny; only from the little that we know about the fixed stars it were a rash conclusion, that these creatures must, like us, be bound to and in a physical corporeity of an inferior order. If in the fixed star world we do not perceive the distinction of enlightening suns and planets enlightened, but in themselves dark, and satellites dependent on the orbit and light of the sun and a planet, and so doubly dependent, but only luminous bodies encircling one another; if therefore here, with the alternation of light and darkness, the change of the seasons disappears, and there is given equable condition of steady brightness,—then the impression forces itself upon one that the fixed stars were constructed to be the dwelling-place of personal creatures, who are in no danger of coming to a resolve to rebel against God, or who no longer are in such danger, or who have already overcome it, who therefore are not in need of a redemption, nor of any alternation of seasons or conditions. But this conjecture finds its foundation in the authoritative writings of the gospel, which have already been proved by us (§ 140) to be truth, and indeed God-revealed truth. Holy Scripture indicates by one and the same expression, **צבאות השמים**, hosts of heaven, sometimes the host of the fixed stars (Deut. iv. 19, xvii. 3; 2 Kings xvii. 17, etc.), sometimes the multitude of created personal beings, which stand uninterruptedly serving and praising God (Ps. ciii. 21, comp. with ver. 20, etc.); while, on the other hand, the planets are invariably distinguished as **כוכבים** from those

צבאות השמים (Gen. i. 16, comp. with vers. 1, 2, xxxvii. 9; Ezek. xxxii. 7; Ps. cxlviii. 3 f.; comp. with Gen. i. 6, 14). If, now, the world of the fixed stars is that region of creation in which there is no need of a redemption, and if among the planets earth is the only one on which organic life is possible, the question why just this planet, this single little one among the millions of worlds, should be made the scene of the free act of God of absolute significance, has got its perfect solution. And thus it is seen that the presuppositions and truths of Christianity are in perfect harmony with the facts of nature and of the natural consciousness.

SECOND PART.



SYSTEMS OPPOSED TO CHRISTIANITY.

SECOND BOOK.



EXAMINATION AND REFUTATION OF SYSTEMS OPPOSED TO CHRISTIANITY.

§ 144. *Survey of the Field.*

THE various systems which are directed against Christianity may be most conveniently arranged in such an order, that those which proceed farthest in the denial of higher spiritual principles will have the precedence. These are the materialistic systems. Among these the most extreme position is taken by the system of pure mechanism, which denies the existence of any principle of organic life, and seeks to explain vital functions by the physico-chemical laws of inorganic nature. Closely connected with this theory is the Aposkopiological, which refuses to acknowledge the presence of design in nature. Then again, the combination of these two forms the presupposition of the Darwinian theory, or so-called theory of selection, which is itself constructed upon the foundation and data supplied by the two previously referred to. A fourth system, which works out in the domain of ethics the consequences of the three previous theories, is that of the physical determination of the will, that is, the denial of the freedom of the will. Hartmann's Philosophy of the Unconscious forms the transition for those realistic systems to those of *a priori* speculation. It maintains, against materialists, the existence of a principle of life in the presence of design in nature; it also assumes a

Designer as the Author of the world, but in consequence of a series of confusions consciousness decides against this, and develops into a chaos of contradictions. Thus, in conclusion, we have the consistent pantheistic systems from Spinoza down to Hegel.

Obs.— We do not regard the denial of the existence of a principle of life and the denial of the presence of design in nature as part of one scheme, because the two are not necessarily bound up with one another. It is only Häckel who, in his incurable confusion of thought, maintains that the two are identical (*Natural History of Creation*, p. 14). "The mechanistic conception stands opposed to the teleological;" then he takes mechanical as equivalent to causal, vital as equivalent to teleological. Similarly, too, at p. 80: "The teleological theory with the assumption of a creator leads necessarily to the dualistic assumption of organic and inorganic beings, of which the former are explained by *causæ finales*, the latter by *causæ efficientes*." This is arrant nonsense. One may adopt the entire theory of mechanism, may explain the functions of organic life merely by physico-chemical laws, may deny the distinction between organic and inorganic, and yet be for this reason by no means obliged to dispute the presence of design in those physico-chemical laws from which he seeks to explain all things, even the vital forces themselves. (Comp. § 74,—the traces of design in the physical law, that water has its greatest density at 3° Cent.) The assumption of the presence of design in nature, and of an intelligent, designing creator thereof, will therefore by no means lead *eo ipso* to the distinguishing of the organic and the inorganic. Even he who thinks it possible to explain the vital function on purely mechanical principles must, if he listens to reason, always assume an intelligent designer, author of those physico-chemical laws. For not only is the organic, but also the inorganic, determined in accordance with the principles of design. The converse position, however, may be affirmed: that one cannot acknowledge a principle of organic life without being thereby led to the acknowledgment of an operative principle of teleology. In order to escape the latter conclusion, some would prefer to deny the vitality; but in vain, since teleology already makes its presence felt even in the inorganic world.

FIRST SECTION.

THE MECHANISTIC SYSTEM, OR THE DENIAL OF THE PRINCIPLE OF ORGANIC LIFE.



§ 145. (a) *Denial of the Idea of Force generally.*

BÜCHNER and many others deny that there is any such thing as forces in nature. There is only matter. What are called forces or powers are not anything over and above this, nor anything existing in matter, but only that matter itself in some other form of its presentation. Every atom of matter has for all time its own special form, so as to be to every other atom either attractive or repellent: this constitutes the inalienable attribute of that particular atom. Every atom possesses an inalienable existence: one and the same atom can exist under a variety of chemical surroundings, and under an aggregation of various conditions, but it must itself continue always what it is. But now it may be asked, What is it? This is the answer which they give, It is the sum-total of its attributes. Quite right; but we have now (§ 61, 62) shown that it is beyond contradiction, that those attributes are nothing else than certain effects produced,—that, for example, colours which we ascribe to an object, are not attributes thereof, but experiences or sensations in us, which are produced in us by an action of the object on our visual organs. Further, it has been shown, that these effects presuppose something operating, that this active principle is not always operative, but carries on its operations only under conditions; as, for example, a body on

which no ray of light has fallen will not send out rays of diffusive light; or a stalk of brimstone, only if it is rubbed and warm, will give forth an electric current. Anything which is active only under conditions, we have certainly been accustomed to call a force or power. The inactive power, under certain conditions, becomes operative. Things are therefore a complex of powers, which, according to § 63, have as such by no means an inalienable existence, but continually dissolve and change themselves, and it is only the power of attraction that remains constant in them. We too would therefore reject the dualism of matter and force, but we do this for a directly contrary reason. We do not resolve the idea of force into that of an attribute of matter, but the idea of matter into that of a complex of existing forces. But while we in this sense reject the dualism of matter and force, we must expressly insist upon another distinction, namely (comp. § 63), upon that between the complex of forces and its laws. Even he who explains the former as being matter, will yet have to admit that there is a distinction between this matter and the laws according to which it operates. There is surely quite an appreciable distinction between a pennyweight of muriatic acid and the law, that if sodium-chloride (common salt) be brought into contact with sulphuric acid, the chloride combines with the hydrogen of the latter to make hydrochloric acid. A body is not a law, and a law is not a body. A body consisting of so many molecules, that is, combinations of forces, is one distinct thing, which exists at a particular place and during a particular time; but a law is always and universally valid, and determines not only the attributes, that is, the modes of operation of this distinct body, but of all bodies of this kind, and not merely the modes of operation of this kind, but the mutual modes of operation of many kinds. If, now, one would only keep this simple fact clearly before him, that besides (*præter*) matter there are also laws, besides the separate atoms there is the contrary action of a determining universal, he would even

in doing so transcend materialism, and be obliged to admit the existence of a spiritual domain, and even that of an intelligent creator of matter. For one must necessarily ask for a sufficient foundation for this law, for an origin to it, and then it would undoubtedly be acknowledged by all, that it could not be the separate atoms scattered here and there in space, which had assumed to themselves the position of a law for other kinds of atoms. The individual and particular cannot be the author of the universally valid. It is, for example, inconceivable that any particular atom of ether, or all particular atoms of ether, should be the author of the law; that a complete transverse oscillation of them in a complex of atomic bodies, such as are present in the wedge-shaped organs of the retina, should produce the sensations of red, yellow, etc. Here is a law which has a determining power over two principal kinds of atoms.

§ 146. *The Achilles of the Materialistic Theory of Nature and his Heel.*

Here we meet with for the first time that sort of sophism which materialists and the materialistic theory of nature delights to employ in order to demonstrate its perverse positions. The formula in which this fallacy was expressed was known to the ancients by the name of Achilles. It may be worth while to state it distinctly.

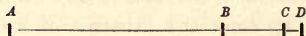
Thesis. If a tortoise be some distance on the way in advance of Achilles, then Achilles never can overtake it.

Demonstration. The distance in advance which the tortoise has reached may be indicated by the length m , and the motion of Achilles may be p times as rapid as that of the tortoise. Now, while Achilles in a period of time z (we may suppose in one second) travels over the distance m , the tortoise has meantime travelled over a distance that may be represented by $\frac{1}{p} + m$. The tortoise advances $\frac{1}{p}$ part of this distance, that is, $\frac{1}{p^2}$, and is by an ever diminishing distance ahead of its swift-footed hero, but is still before him. Achilles now also runs his distance $\frac{1}{p} + m$ after it, but in the same period the crawling

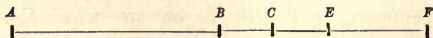
creature has run a further distance of $\frac{1}{p^2} + m$, and so on *in infinitum*. Poor Achilles therefore may run as fast as he likes, but he will never exactly overtake the tortoise. The distance it has reached in advance of him is indeed by and by quite infinitesimally small, but still it always remains calculable and measurable. Achilles therefore remains always a measurable distance behind the tortoise; he can never overtake it, to say nothing of outstripping it.

So far this demonstration. Let us substitute for Achilles an express train, and for the tortoise a heavy waggon which travels on the high-road, alongside of the line, and has a start of a hundred yards, and here we have a precisely similar case. The express train can never overtake the heavy waggon; this is mathematically demonstrated! Where now lies the fallacy of this demonstration? Simply in the wilful confusing combination of the questions that are proposed; for the answers are all right.

First question: How far does the tortoise go while Achilles travels over the distance AB , which corresponds to m , that is, in one second? Correct answer: The distance $\frac{m}{p}$, from B to C . Second question: How far does the tortoise go while Achilles travels over the distance BC , which corresponds to $\frac{m}{p}$, that is, in $\frac{1}{p}$ second? Answer again quite correct: The distance $\frac{m}{p^2}$, from C to D .



The answers are right, but the questions are absurd. If the sophist had asked: How far did Achilles and the tortoise go in the second second? that is, how far the tortoise went while Achilles ran a distance BF equal to AB ,



then the answer would be: the tortoise travels over a distance $CE = BC = \frac{m}{p}$, and so has reached a distance $m(1 + \frac{2}{p})$; but Achilles has gone a distance of $2m$ from the point A , and therefore at the expiry of the second second he is by a distance of $m(1 - \frac{2}{p})$ in advance of the tortoise. The sophist who sought to demonstrate that false thesis was

subtle enough not to ask about that which did not serve his turn. Precisely similar is the course pursued by materialism, when it declines to ask, whence the physico-chemical laws are obtained, for they are undoubtedly something else than matter, since they cannot be classified either under the bases or under the acids, either under the heavy metals or under the light! Or should any one perchance take the law of adhesion for an acid, and the law of the oblique plane for a metallic base! And yet this is just what materialistic or atheistic science endeavours to do in many cases, which we shall yet examine in detail.

§ 147. (b) *Denial of the Idea of Vital Force. Elucidation of the Question.*

The denial of the existence of force is by no means helpful to materialism, seeing that thereby it does not do away with the dualism of matter and laws; but it is also quite a false notion, for (according to § 61, 62, and 145) it is not the idea of force, but only that of matter, that is a vanishing one, resolving itself into nothing. In fact others, such, for example, as du Bois-Reymond, Wundt (see § 65, *Obs.* 1), etc., do not go so far as to deny the existence of forces or powers generally. They rather allow the dualism of matter and force to remain, while denying that besides the physico-chemical forces operating in nature there are any other special forces, by which the vital phenomena of organic life are to be explained. With the utmost decision, but also with the utmost confusion, and with a rare ignorance of the most commonplace metaphysical ideas, Häckel has expressed himself in this sense (*Natural Hist. of Creation*, p. 14 f.): "Chemical and physical phenomena are unquestionably regarded as effects of physical and chemical forces, which inhere in matter, not as the operation of a designing active creator." The existence of forces he therefore admits, but takes occasion to argue therefrom the contradictory opposition

that there is between the existence of such forces and that of a creator, as if the one were excluded by the other, and not rather that the existence of a multiplicity of forces, the varied operations of which are regulated by laws, leads necessarily to the question of an author of those laws of operation. He then continues: "When a physicist seeks to account for the fall of a heavy body, he does not in order thereto assume the interference of a supernatural creative power." Certainly not. No more is this assumption made by the Christian or theologian. The youngest village candidate for Confirmation knows the difference between the divine upholding of the course of nature once for all established by the Creator and His laws, and miracles which are wrought for the purpose of redemption by an extraordinary interference with those laws on the part of God. It would never occur to the simplest candidate for Confirmation, or to the peasant's child who had learned his catechism with ordinary care, that what takes place in accordance with the laws of nature should be attributed to a supernatural interference of God and be called a miracle, since we Christians understand by a miracle that which happens apart from or contrary to natural laws. But Häckel, who has a fancy for speaking about and mocking at religion, seems to stand in regard to the most commonplace religious ideas on a lower level than our candidates for Confirmation; for on p. 24 he writes: "The opponents of Darwin treat the department of nature as a riddle, and look upon the origin of species as inexplicable as a miracle." But enough of these insipidities! For our investigation it is sufficient to take note of the fact, that Häckel admits the existence of powers or forces which inhere in matter. On the other hand, he denies the existence of a vital force, for he continues: "Physiologists explain movements in plants and animals in a purely mechanical way from physical causes; only morphologists think still that to some extent the forms of plants and animals must be considered as something which cannot be mechanically explained, but has its origin in a supernatural designing

active creative force. It is in this connection a matter of indifference whether this creative force or power is revered as a personal God, or whether it is called *vis vitalis* or *causa finalis*. In every case recourse is had to miracle as the explanation." That Häckel should here, where the question before him is not that of the abolition of laws of nature, but the arrangement and upholding of nature, bring forward again the idea of miracle, must, as we have said, be attributed to the infra-rustic level of his knowledge of religious and metaphysical ideas. But the very opposition assumed between physical causes and a creative power is an altogether contorted and confused one. He who acknowledges a self-conscious author of the world, a creator, traces back to him, indeed, not merely the movements in plants and animals along with the former thereof, but also the authorship of the physico-chemical laws, and therefore the arrangement of all those circumstances which Häckel designates improperly by the term mechanical, the more correct expression being inorganic. Thus Häckel confusingly blends together two questions, which belong to entirely different departments, namely, (1) A question in natural history: Whether within the range of visible nature the phenomena of organic life can be explained from the general physico-chemical forces and laws of inorganic nature, or whether in every living organic individual there must be assumed a separate vital force directing those forces? and (2) a question of metaphysics: Whether a self-conscious God is to be assumed as the author of this visible nature, and that as well of inorganic as of organic phenomena,¹ or whether something else may be

¹ Comp. Wigand, ii. 345. He shows then how absurd it is "if one expect to smooth down the pretended conflict between natural science and philosophy by surrendering one department of nature to the other, while claiming another, say that of organic nature, for teleological philosophy. Not so: but all nature belongs to natural science, and all nature belongs to philosophy. There is no motion of an atom that is not subject to the law of causation, and none which is not dominated by ideas and ends, which is not ranked as well under the notion of natural effect as under that of a creative fact."

supposed, either that all is the result of a mere accident, or that it is begotten of some unconscious process? When Häckel mixes up together the two pairs of contradictions he makes (see p. 28) vital equivalent to teleological, and these the same as dualistic, while he identifies mechanical and causal, and regards these as monistic. With his high philosophical culture he regards as dualistic the assumption of one author as the source of all existence. He avows this himself, p. 26: "We never reach," he says, after the style of the Achilles sophism, "to an explanation of the final ground of the attributes of the organic world." Thus then he himself assumes some sort of unknown final ground. To assume a multiplicity of such, or myriads of separate atoms, ascribing primal being to each of them, is evidently not dualism, but still less is it monism: it is rather an irrational pluralism. From out of all this mass of confused talk we may lay down this position as containing the essential germ of the writer's meaning: there are indeed in nature physico-chemical forces, but no vital force distinct from these in the organic individual.

§ 148. *Impossibility of Mechanistic Explanations of the Functions of the Blood.*

Häckel has not made even one attempt to furnish a proof of this statement; and when this has been done by others, it has been by using the Achilles sophism (§ 146). The endeavour has been made to explain a series of organic functions by means of physico-chemical laws, but in that case the previous existence of functional organs, therefore of the apparatus, is already quietly presupposed. The question then, whence did these organs come, and how is it possible that physical phenomena themselves construct the apparatus necessary for them, what we might call their physical cabinet and laboratory, is never raised (comp. *Obs.*); nor is that other question raised, how it is to be explained that every species constructs for itself a series of organs in accordance with its

own distinct and specific kind;¹ nor has the third question been touched, how it is to be explained merely on the ground of the causality of physico-chemical principles, that a present vital function of an organism is referred to future functions (as when, for example, plants fill up their storerooms with cambium expressly for future use, and in the animal embryo an eye is constructed for future vision). Comp. § 65, 66, and 75, 76. Passing over inconvenient questions in silence, this sudden exhaustion of the knowledge-craving is the Achilles and the Achilles-heel of the mechanistic theory of nature. It is now clear as noon-day that this entire mechanistic theory falls in a heap so soon as proof is given from one single fact of the organic life, that not only has it not hitherto been explained from the reign of physico-chemical laws, but also that it never can be thus explained. This, however, can be proved not merely from one, but from all those facts. All organic functions (comp. § 66, *Obs.* 1) are in themselves physico-chemical processes, but each of these processes, as well as the efficient property common to all, presupposes a force introducing and directing the process,—a director who founds the laboratory and works in it,—that is, an effective law of development, a vital force. In a general way this has been already stated above in § 65, and also the fact (§ 76) that in an organism something that is not, but is yet to be, is the exciting and producing cause of the most essential elements of vital movement, has not been and never can be explained by means of those physico-chemical laws.

But we shall now adduce single instances, where the phenomena of the living organism are in direct antagonism to the physico-chemical laws of inorganic nature. The blood consists of the following constituent parts:—1. Plasma, which contains—(a) Fibrin, an albuminous substance, which changes the second O in HO² from antozone into ozone, whereupon it

¹ Wigand embraces this under the idea of individualization, and proves from the standpoint of the scientist (ii. 148 ff.) the existence of a vital force. Comp. above, the note to § 66.

combines with a larger volume of antozone to form oxygen. Fibrin outside of the living body is soluble, or is changed into a soluble albuminous-like body: in the blood of the living body it is insoluble, and exists in the form of two insoluble substances—fibrino-plastic globules and fibrinogen. Soon after its removal from the blood-vessels and arteries of the living body, and immediately after death, fibrin coagulates. It is thus subject to the chemical laws of inorganic nature. In the blood-vessels of the living body it does not coagulate. (b) Serum, which contains soda, potash, chalk, magnesia, phosphoric acid, sulphuric acid, chlorine, carbonic acid, nitrogen, oxygen, and 90 per cent. of water. — 2. Blood corpuscles which contain—(a) Red corpuscles consisting of (1) Stroma, made up of globules and protagon; (2) Hæmo-globules, a red-coloured matter, consisting of albumen, hæmatine and ozone; (3) Iron and potash. (b) White lymph corpuscles. No other cause for the non-coagulation of the blood in the blood-vessels of a living being is known (Wundt, *Physiol.* § 110), except the influence of the coating of the vital organs. Why then has it this influence only when living? It has been conjectured that “fibrinogen produces and also consumes it.” Supposing this really explained anything, the question still remains, why is it then only the coating of the organs of the living subject that produces and consumes fibrinogen? Life is, according to your own statement, worthy sirs, nothing but a product of mechanical phenomena! And now should there not be a cause for those phenomena? “No,” you say, “there is not, but A. Schmidt has shown that the ozonizing of the plasma hinders the production of fibrin.” Very fine, but why do always the blood corpuscles generate ozone anew only for the blood of a living being? One organ after another is made the scapegoat to be responsible for the non-coagulation of the blood, first the membrane about the vessels, then the ozone in the plasma, then the blood corpuscles as producers of ozone; but in every new lurking-place you are anew confronted again with the spectre, life! Wherever there is life

there appear a set of circumstances which outside of it are not found. Thus against your will you are taught to confess that life is a primal causality, which operates in physico-chemical laws, and not merely a product of those laws.

We have already, in § 76, *Obs.* 2, referred in general to the nourishment (regeneration) of the various organs by means of one and the same blood. Here we call attention to the subject with regard to this particular detail, that (Wundt, § 76) "easily oxidized substances, such as lactic acid, glycerine, etc., when they are added to blood that is dead or has been drawn from the body, do not change its substance into carbonic acid, but leave it unconsumed, whereas if, in the process of a so-called internal breathing, they are added to the blood in the living body, they increase in volume in a short time through their consumption of the carbonic acid present in the blood." The living blood, therefore, can oxidize substances which dead blood is not capable of oxidizing. When the mechanistic physiology supposes that it can derive some assistance from the explanation, that the internal breathing is no simple process of combustion, it should be remembered that the question is not whether it be simple or complicated, but whether living blood generally does not possess a power of combustion which dead blood does not possess. And if now, again, it may be further conjectured that a function of the parenchyma may be made the scapegoat which introduces complicated processes,—it is not said what these are,—then the question is by this means only thrown back one step, but not solved. For again it is only the living parenchyma that introduces such processes (comp. also the conclusion of § 150).

And all this is true not merely of particular obscure phenomena connected with some of the less important organs. The continued maintenance of the whole range of the vital functions results from the fluidity of the blood and the regeneration of the entire set of organs, from causes which avowedly are operative only in the living organism of which

the ultimate cause is the vital force. And that this takes place in the process of respiration and in the economy of the heat of the body we have already, in § 76, shown to be an incontestable fact. Thus physiology on every side, where it finds itself compelled to ask about the fundamental beginnings and conclusions of the physico-chemical elementary process going on in the organism, on every side is driven to a last *causa sufficiens*, which cannot be expressed by the formula of a physico-chemical process.¹

Obs.—Where then in the embryonic constructing of the organism of this laboratory lies the full apparatus, the mechanical, that is, physico-chemical cause, which the originally existing one cell needs for increase by means of endogenous cell formation, and then for this and that arrangement of existing cells, and finally for the forming of different purposed cells and different organs? If one makes answer to this (Wundt, 3rd ed. p. 743), "The results of an actual physiological investigation into the conditions of the development of the embryo have been up to the present time for the greater part inaccessible," it must simply be answered, that that question according to a mechanical cause of the development referred to all future time will remain unanswered, simply for the reason that since, according to the nature of the thing it never can be answered, a homogeneous cause, the blood of the mother, could not possibly, according to mechanical law, out of a simple and homogeneous cell (the fructified cell) make a cell for performing a different class of functions (comp. § 152). Hæckel too admits this when he refers the origin of distinct and specific organs in the organism to a law of transmission. But surely the law of transmission is not a physico-chemical, but an organic one. Transmission from parents to their offspring does not belong to the province of inorganic nature, any more than propagation of the species belongs to it. So here again one is placed in a dilemma, when he endeavours to escape from the idea of life. According to the general principle laid down at the end of § 68, one may say that the organic living body is related to the inorganic, as the mathematical function is to the variable numeral dependent upon it. The latter is changed in being as you please with every operation undertaken; the former, if various values are set for the variable, represents a series, the nature of which depends upon the determination

¹ Comp. here what Wigand (ii. 29) says of the forming principle in generation in organic beings realizing itself according to a prescribed plan.

lying in the function itself. For example, from the number + 6 by adding, subtracting, multiplying, etc., every other number can be made: on the other hand, the function $(x^3 - x)$ furnishes the series: - 24, - 6, 0, 0, + 624 . . . or with the intercalary numbers: . . . - 0,0019, + 0,0009, 0, + 0,0009, + 0,0019 . . . Who would say, if he saw before him a series such as that given here: "What then, that is no series! These are simple numbers: it is all reduced to simple subtractions. I need, for example, only to subtract + 0,001 from + 0,0019 and I get 0,0009. All this talk about there being in this series of numbers a law of progression, a latent function, is a mystical humbug!"—he who would say this, would make precisely the same mistake as our materialists, who in the course of development of an organism see nothing more than simply separate physico-chemical occurrences, but not the latent law that determines the series of these occurrences.

§ 149. *Impossibility of the Mechanistic Explanation of Reflex Motions.*

In another department, that of reflex motions, E. von Hartmann (*Phil. of the Unconscious*) has shown that the mechanistic theory fails to yield an explanation. It has been proved by Kölliker, that a reciprocal anastomosis (ramification) does not take place between the sensory and the motory nerves, but that every excitation of the sensory nerves acts upon the motory nerves first through the mediation of the grey substance of the spinal marrow. "But," continues Hartmann, quite correctly, "if all excitations are first received by the grey substance, and then by it transmitted to the motory nerves, the materialistic explanations of reflex actions by means of a mechanism of a controlling principle is quite impossible; for now no laws and arrangements can any more be thought of, which cause one and the same galvanic current to fall sometimes upon a near, sometimes upon a distant part, and cause the reactions to follow one another, sometimes in that order, sometimes in that, yea, even upon a simple excitation cause an alternate play of the antagonistic forces of contracting and extending of the *nervi motores* to come in force." As when, for example, a decapitated frog

winces at the point at which he is pinched, say his arm, and moves it to and fro. If one divides the spinal marrow of an animal tenacious of life lengthwise by a slit from before backwards, the reflex movements are limited to that half of the body which is excited,—a *motor* on the right side only reacts upon an excited *sensitivus* of the right side, etc.; but if one leaves, at any part of the spinal marrow he chooses, a portion not cut through, then by the excitation of any sensory principal nerve you please of the one side, reflex motions will be called forth on both sides. That affords a clear proof “that the motory reaction is not the result of causes marked out by the leading of the excitation;” that rather, and that in the case of the decapitated frog, a monad of a middle rank, § 67, a something exists, which determines the direction of the nerve current.

150. *Impossibility of the Mechanistic Explanation of the Regenerative Principle.*

E. von Hartmann has also rightly referred to the phenomena of the principle of regeneration. When a bird repairs its damaged nest, no one doubts the existence of the improving subject as distinguished from the improved object. But we now find the same improving activity within the organism itself, and though here the improving subject is invisible, it must still be existent. *Hydræ*, *Planariæ*, and *Annelidæ*, when cut across produce on the head part a new tail, and on the tail part a new head. There is therefore present in every part of the animal the typical idea of its complete structure, not consciously indeed, but operatively and creatively, as an operative law of growth, that is, the vital force. The earth-worm when cut across forms on the wounded part a small white head; this grows rapidly, divides soon into a number of small, closely set rings; these spread out, press one another flat: within the tube thus formed the elongations of the digestive canal, of the blood-vessel system and the ganglia

cord, are formed. As to the supposition, that the chemical condition of the surface of the wound, with the organs cut across, was of such a kind as to effect the further growth of the animal, it might fairly be characterized as credulity of the most vulgar type. One quite sees, however, how from the two similar cut surfaces after the successive forming of several rings, there finally arises, here a head, there a tail, which organs have, indeed, nothing analogous in the rest of the trunk in which they are formed, but the supposition of a mechanistically operative causality is simply nonsense. For just here again, as in § 76, it is not something existing, but something that is not but is to be, that shows itself operative. Besides, the regenerated organs are constructed in a way corresponding to the stages of age and development. If the miller's-thumb loses its hinder part, it produces another with a tail; if this happens to a frog, it produces one without a tail. Among fishes the regeneration of fins that had been cut away takes place in the order in which those are of most importance for motion,—tail fin, breast and belly fin, and back fin. This power does not go the length of complete regeneration, but through the imperfect regeneration there is a glimmering of the normal type. The decapitated snail gets a head with only one antenna, but it has two eyes; a man who has lost the first portion of his finger finds sometimes that a nail grows upon the second. For organs which are peculiarly exposed to danger and easily lost (rays of star fishes, legs of spiders, the feelers of snails, antennæ of cockchafers, tail of lizards), there exists a peculiarly strong power of regeneration. The more highly organized and differentiated a living organism is, the less is the power of regeneration. In the case of man it appears only in the form of the natural power of healing in regard to outward wounds and inward degeneration. Therapeutics can do nothing more than assist this natural process and guard against disturbances (Virchow, *Spec. Pathol. und Therapie*, i. 72 ff.). The first act of every new formation of a lost organ is to set up inflammation. There is increased

blood-pressure upon the part where the new forming was required: then the pump action of the heart and the elasticity of the arteries are constantly active. The vaso-motory nerves, moreover, are regulative of the speed of the circulation, Wundt, § 122, which again cannot be explained on mechanistic principles, because that which is provided for is nothing presently existing, but something that is to be. This local blood-pressure cannot be explained for physical causes alone. By means of the blood escaping from the wound dying, and hence (§ 148) curdling, the vessels of the wound are as it were stopped with plugs. The curdled blood has no organic connection with the membranes: it is a dead, inorganic thing, and as such will be reabsorbed afterwards. About twelve hours after the occurrence of the wound there will be a discharge of a white fluid, the plastic lymph, which is condensed into neoplasm, which consists of serum exuded and cellular tissue; these blending with the abundant inter-cellular fluid, are pressed out by means of the growth of the cells from the ligaments laid bare by the wound. Out of this homogeneous neoplasma heterogeneous organs are formed: muscles, ligaments, nerves, skin, blood-vessels, bone, and indeed each of those organs at the place to which it normally belongs, and, what is most important, not directly in contact with, or in immediate continuation of organs still existing to right or left of the wound, but in a position quite separate and removed from these. It is only later on that the newly-formed organs are connected with the old. There is thus no chemical action operating upon the neoplasma, whereby the modifications produced by it might be explained on mechanistic principles, but here, just as in the case of the bisected worm, the law of actual growth prevails, the vital force. (See *Obs.*) But where a normal regeneration is impossible, as in amputations and resections, there a skilfully designed compensation appears. After amputation of the hand and wrist, the stumps of the ulna and radius grow, so that both bones retain the firm connection which the wrist had afforded them before. The same is true

of the tibia and fibula. The lens lacerated in an operation for cataract is absorbed by the *humora aqueus* and *vitreus*; the part cut out in some cases is replaced again. In the case of neglected sprains the vacant socket of the joint fills up, and at the place, where the head of the joint now is, a new joint is formed. If the normal passages for the escape of secretions are stopped, fistulous passages are formed, which take at once the shortest and most suitable direction, so that the cellular tissue of the fistulous membrane is transformed into a mucous-skin of such a chemical condition that it is insensitive to the excretory matter passing through; but so soon as the natural excretory canal has been reopened, the fistula of itself heals up completely. Now it cannot be explained from physico-chemical causes merely, why the secretion, which by the loosening of the cellular tissue must restore for itself a channel, uses this loosening power only in this case and always in the most suitable direction. If a secretory gland be hindered in its functions in consequence of sickness, others appear to take its place. This happens, for example, when in kidney disease the bladder parts with the urinary secretion. Finally, it is observable that living organs possess a power of physical resistance, which in the moment of death is lost. The gelatinous medusæ digest animals with thorny coverings, while the membrane of the stomach of the medusæ, when they are dead, is always damaged by these thorns. Birds digest pieces of glass and iron nails. The intestine of the plaice is often stuffed so as to be distended to its full capacity with sharp mussel shells, whereas after death it can be cut through by the least touch of those very mussel shells that are found in it. The chyle, which does not injure the living stomach, begins immediately after death to destroy the membrane of the stomach. What results from this has already been shown in § 148 in a similar case with reference to the blood.

Obs.—What is said of wounds generally, may be applied with special force to the healing of broken bones. Here the neoplasm forms first a capsule, which afterwards hardens into a callosity.

Both openings of the marrow cavities are stopped by plugs, which are formed from the medullary membrane. Gradually the two broken edges of the bones are softened by inflammation, so that they separate the neoplasma, which is transformed from gelatine into cartilage, and gradually becomes partly bone and partly marrow. While this is going on, the callosity is again softened and absorbed, and now first the old marrow cavities come into connection with the new piece of marrow cavity that has been produced in the space between them, while the plugs closing the cells become thinner and ultimately disappear, and it is now found that the newly-formed piece of bone most exactly fits in to the two old pieces. Similarly in favourable circumstances, the pieces of the intestinal canal are also restored.

§ 151. *Impossibility of the Mechanistic Explanation of Instinct.*

We know that the instinct of an animal is an unconscious choice of a means without consciousness of its designedness or of the end which it is to serve. Now he who denies to the animal an existing soul, and regards the animal soul as only the sum of certain functions of the material brain, finds it utterly impossible to explain, how within the scope of these oscillations of the brain acts of the will can take place, which are objectively designful and regularly work for a quite definite end, while still the setting of this end or the knowledge of this designedness of the means does not come about through those oscillations of the brain. According to this, then, there existed nothing that posited that end or recognised those means as designful. The objectively existing designedness of the actually applied means must therefore be explained as resulting accidentally, that is, it remains unexplained. Only by assuming that a soul exists in the animal, and that a higher power operates upon that soul,—only thus can instinct be explained. (Comp. above, § 72.)

Obs.—That instinct cannot be explained upon mechanistic principles, is felt even by mechanists themselves, and so they seek wholly to deny it, and affirm that what looks like instinct, is rather the result of the reflection of the animal, or of custom, or of experience. The most incredible theory is that advanced

by the great champion of the mechanists, Darwin (*The Descent of Man*, i. p. 30). "The animal has instinct, but we are not sure whether it has not won this through experience, or learnt it from its parents;" and with the same breath he states the fact that animals avoid poisonous plants. Hence every beast must some time have poisoned itself with hemlock, every bird have some time died of *atropa belladonna*, before it can finally by experience have learnt to avoid these poisons! Or no, its beloved parents, who only cared for it so long as they were feeding it, and no longer after it was fledged, flew with him to an atropa-bush and shook the head so long, that the little one took in the idea, that he dare not feed upon those berries. It would just be experience of increasing exhaustion that would instruct the wryneck which, after the eggs it laid had been removed twenty-nine times, laid a thirtieth, and died of exhaustion (§ 72), that it should give up laying. But perhaps its dear parents had early impressed upon its mind the lesson that it must always have an egg lying in its nest. Or perhaps reflection reminds it of the versicle: To every man an egg, to the pious preceptor two! If bees begin to build a new hive, one of the larger working bees begins to draw forth with its hind foot a leaflet of wax formed under its belly, to chew it and to paste it on to the roof of the basket. Another follows and glues another piece of wax to the former one, and so they work on till a thick perpendicular wall has been formed. Now comes one of the smaller working bees, and makes in the wall a flat oval cavity. On the opposite surface of the wall another bee does the same. Twenty bees in succession carry wax, and build cell-chambers about the cavity in the wall. And so on each of the two sides of the wall, cavity beside cavity, cell beside cell, is built, and finally the cell system on the one side, say the eastern, corresponds to that on the other side, the western, in all the minutest details, while the bees on the one side could not see the bees on the other, and every cell is so regular a hexagon, that the angle of 120° is not departed from by so much as half a degree. Does the young bee which builds for the first time learn this from experience? Or is there among bees a popular educational institute of architecture, where the parents impart instruction? Or do bees reflect on the arrangement of a ground-plan in regular hexagons? Which of these three suppositions is most absurd, it is indeed hard to say; but Darwin remains a sensible man whom the heroes of exact science, with the Gartenlaub and other institutes of culture, have every reason to venerate.

§ 152. *The Theory of Pangenesis.*

Anything homogeneous, such as the mother's blood, cannot possibly in a mechanical way produce out of anything simple and symmetrical, like the fructified primary cell, a differentiated result (§ 148, *Obs.*). That this primary cell is transformed by dissection (endogenous cell-forming) into a number of homogeneous cells, may be explained on mechanistic principles, just as by means of strokes a soap-bubble may be divided into a number of bubbles; but that this collection of cells should assume a regular determined form, a fixed arrangement of cells, and bring forth various-shaped cells, and each one again in a definitely particular way according to that of the parents,—this can never be explained on mechanistic principles from any uniform mode of operation transmitted in the blood in regard to the whole mass of cells. Mechanists have admitted and confessed that this is incontestably true, since they find themselves obliged to help out their system by the hypothesis: that the influences to which the ovulum is subjected on the part of the parents are not symmetrical, but are already differentiated. He who throws himself in a conflagration from a fourth storey headlong upon the pavement, most certainly acknowledges thereby, that he regards the fire as no mere imagination; and yet such a desperate leap would be but a trifle compared with the *salto mortale*, which “exact science” performs when it puts forward this hypothesis of Pangenesis. We may hear this from the mouth of the great Darwin himself (*Descent of Man*, i. p. 247): “Each separate cell of the parent organism throws off germs or atoms of development which are transmitted to the offspring of both sexes, and are multiplied by self-partition. But their development first takes effect in the later years of the life of the young.” That no trace of these germs has been found by the most powerful microscope in the dead and blood of animals and in the embryo, is most readily admitted; but this is quite

simply explained by saying that our present microscopes are not at all powerful enough to be able to discern an extraordinarily and extremely small germ.

A. Should we now begin by proving the absurdity of this hypothesis? If a second Gruithuisen would relate to us how the ring of Saturn is inhabited by four-footed creatures of half a yard in height, which had a great resemblance to elks, and if to the question, who has seen this pretty little animal, he should answer, no one, indeed, has seen it, but this may be very simply accounted for, seeing that our present telescopes are not yet powerful enough to be able to discern at a distance of 178 millions of miles creatures of only half a yard in height, this astronomer would certainly have applied to him an epithet by no means complimentary, and he would be asked to endeavour to distinguish between a hypothesis and a pure creation of the brain. For it deserves no better name when, in the domain of a science which calls itself "exact," because it pays attention only to constant sensible facts, occurrences are prattled about which have not been observed, and from the nature of the case cannot be observed, and which owe their existence in the subjective imagination to the wish to get clear of an irrefragable but unwelcome consequence of actual constant facts.

B. And now we pass to our second point. This hypothesis is not only absurd, but also impossible, because those conjectural occurrences not only are not observed and not observable, but they are even irreconcilable with actually observed facts. A germ of each cell of every organ ought to be present in the seed of the male and in the ovary of the female animal: Darwin assumes quite distinctly that in birds germs of the cells of feathers are present in the seed, and by this it is explained how the plumage of the young is similar to that of the parents.

(a) Now it does not appear in what way this germ could have gained entrance there. The seed, as well as the ovulum, is prepared from the blood: the one obtains its nourishment

from the lymph,¹ the other is prepared in the *duct. abdom.* from the nutritive matter. How now could a germ of a feathered eyelash come into the blood? That an animal has so many vertebræ of the neck, and of such and such a construction, is thoroughly explained by saying that for each cell of each neck vertebra of the parent a germ came into the seed or into the spermatozoa, and entered therewith into the ovulum; but in the hardened bone there no longer exist cells capable of development. How then should a germ be pushed off from phosphorized chalk, which has been constructed out of a cellular formation?

(b) But granting that all this were possible, and that those germs were present in the seed and ovaries, they would thus form first of all a confused chaos, and it must therefore be asked: how comes it about that in a single ovulum these unnumbered and various germs of feather-cells, bone-cells, muscle-cells, blood corpuscles, heart-cells, throat-cells, iris-cells, retina-cells, brain-cells, etc. etc., are found together in this ovulum in their proper order, like a battalion which sets itself in rank and file, so that not even a feather-cell gets mixed up among the brain-cells, and a feather grow on a young bird among the substance of its brain, or an eye on the hind-quarters of the monkey? There must here, first of all, be an arranging principle, an actually operating law of development, presupposed.

(c) And since an animal begets or bears several young, care must be taken by some convenient *nisus formativus* in order that there be present in the ovulum of the ovary from every cell of the maternal organism one germ exemplar, so that, for example, one of the young may not be brought into the world with two skulls and no eyes, and another with four eyes and no skull. In like manner, care must be taken in

¹ And from the oxygen of the breath. It ought, then, to be really conceivable that a man like Darwin might inadvertently inhale some germ spores floating in the air of birds' feathers, and should in consequence beget a papageno. This would be the most convincing demonstration of his hypothesis.

regard to the male parent, that in every seminal filament there be present one exemplar of every kind of germ cells.

(d) But even if by means of a sort of *nisus formativus* care were taken to secure all this, what would be the result of it all? That a small organism was constructed from the germinal cells of the father and a second from those of the mother, which by procreation are brought together. Thus we have two organisms of which it is inconceivable how from them there should come one organism of a young one, since the germ of each cell was present in duplicate. There is no other way of escape, but by the hypothesis framed to meet the exigencies of the case, that the male young ones are from the germinal cells of the father, and that the female young ones are from those of the mother. This, however, is nothing else than saying that begetting is superfluous for the production of female young, and the germinal cells of the mother superfluous for the production of males.

(e) But finally, the actually and really observed development of the embryos (§ 65) absolutely contradicts this mere fancy whim and puts it out of reckoning altogether. The embryo of mammals and men originates actually not from the composition of a multitude of germinal cells, but from the partition of a single primary cell, namely, that of the ovulum, into a multitude of cells, which are formed first into a shell, then into germinal laminæ upon its membrane, which gradually differentiating roll themselves together into tubes, which at first are ramified as single tubes, and then as systems of tubes, and then are individualized into separate organs. The actual origination of organs comes about just in the reverse way from that which the hypothesis supposed, not by composition, but by partition and differentiation.

(f) But now one might endeavour, and this indeed seems to be Darwin's meaning, to combine the two contradictions with one another. The parental germ cells for all particular cells of all special organs swam about at first in fact without order or method hither and thither through the fluid mass of

the generative organs; but when now the fructified ovulum developed and differentiated itself among those by the observance of a recognised method, and an embryo arose in it with differentiated organs, then each of those germ cells swimming about appropriated to itself those proper to it, seeks a place corresponding to it in the embryo, where it gets the best, and indeed only suitable nourishment, and here is developed into a particular cell. But this is just the culminating point of the absurdity. In the first place, there must be an active arranging power, which points out to each of the germ cells the right way, otherwise many of them, missing the proper place for their nourishment, would come to grief. But, secondly, we know now of two substantial causes of the production of the young; first, the ovulum organically developing itself into a full embryo by partition and differentiation, which already out of itself constructs and rears complex organs; and secondly, the mechanically placed germ cells, from which the parts of the embryo, the particular cells of which it consists, are to have their origin. There thus arises first, the whole, and then besides the sum of the collective parts of the whole—that is, the whole twice over! It is logically and mathematically clear, that this second origin is not only superfluous, but is excluded by the first. Men had been constrained to make this conjecture in order to explain the characteristics of species and their heredity on mechanical principles, because they will not explain them on the grounds on which alone they can be explained, and on which they have been explained from Aristotle down to Cuvier, and down to Bernard, Gull, and Meadows. But in this way they only reach the absurdity of forming a fantastic notion of a twofold existence of organs instead of the attributes of species. And the fact that the embryo, and that indeed even in its specific form, originates by partition and differentiation of the ovulum, no one can deny and set aside, without being obliged to assume an efficient law of development as the one possible means of explaining that fact.

Shortly, and in one word: in the pangenesis hypothesis the mechanistic system only succeeds in showing the utter bankruptcy of its own method of explanation. And with this we take leave of it.

Obs.—Still another inconceivable statement may have attention called to it. While the bird bears its downy coat, it yet forms no seed and no ovula; during that period of life in which seed and ovula are formed in it, it bears no longer downs but feathers. But the young one is covered in the egg with downs, and only subsequently with feathers. Where then did the germinal cells of the downy covering of the young one come from, since the parents had long ago laid their downs aside? And whence come the feathers to the young one after it has grown up? Should one assume, in order to explain the latter, that the hereditary germs of feathers had been transmitted in the blood of the young one, and are now first present under the skin, where could they be developed? But since this is the regular and invariable cause, one must again assume an actual law of development, by which this temporal succession of development has been determined.

SECOND SECTION.

TELEOPHOBIA, OR THE DENIAL OF THE PRESENCE OF DESIGN IN NATURE.



§ 153. *Is there no Evidence of Design in rudimentary Organs?*

THE absence of design was indicated in the language of the Greeks by the term ἀποσκόπιος and not by δυστέλεος, which latter term not only never occurs in Greek, but is not philologically possible as a word. It therefore testifies to the linguistic scholarship of Häckel, whom we have already seen to be so profound in *theologicis et metaphysicis*, when he speaks of the Dysteleology of Nature. We might call this theory, as in the first edition, Aposkopiology, but prefer to use a name proposed by the other side, Teleophobia, especially because it gives prominence to the fact that that denial of design belongs not so much to science as to a diseased condition analogous to hydrophobia. In order to contradict the statement of the presence of design in nature, he first of all affirms, that much in it is purposeless, and secondly, that much is ineffective. As purposeless phenomena he (*Nat. Hist. of Creation*, pp. 9, 55, 443, etc.), in harmony with his brother Darwin (*Descent of Man*, i. p. 14 ff.), refers to rudimentary organs. When Häckel too hastily gives the meaning of rudimentary as implying that these organs are deteriorated forms of earlier developed conditions, Wallace on the contrary regards them as organs in the course of development, and Darwin vacillates between the one opinion and the

other. "Thus already," says Wigand, i. 345, "a theory pronounces judgment upon itself, which will explain a process, of which it knows not whether this or its contradictory is the proper rendering." The question about the mode of the origin of rudimentary organs is treated by us at a later stage; but the assertion of their purposelessness, be they deteriorated formations or imperfect beginnings of new formations, is in all cases to be met with a denial, and indeed just in the sense of that Darwinian system, according to the position maintained by which, the non-use which affects the deteriorated formation as well as the new formation proves itself throughout useful to the animal concerned as the beginning of a process of adaptation, and thus never was purposeless.

While, then, Darwin is willing at least to distinguish from the imperfect organs those in which the tendency to a new formation appears, that is, the properly rudimentary, Hæckel refers quite indiscriminately to both. If the slow-worm has shoulder bones, without possessing frontal bones or bones generally, he sees therein not the rudiment of an organ, which has first reached development not in this but in another species, but he puts forth the ridiculous hypothesis, that a portion of the lizard tribe voluntarily disaccustomed themselves using their feet, so in the course of time the bones shrank more and more and at last quite disappeared, and slow-worms were produced. A ridiculous hypothesis! For what animal provided with bones will voluntarily forego the use of these convenient organs of locomotion in favour of an extremely inconvenient, yea, so long as the bones remain, an impossible mode of motion, crawling upon its belly? But if this were conceivable, it would have been a purposeless and silly act of this animal, but no proof of the absence of purpose in nature. Even then nature should not be charged with purposelessness, but the animal with an ineffective wilfulness, if, according to Hæckel's idea, a portion of the hoofed animals, the hippopotamus, abandoned the custom of living on the

land, swam contrary to its wont in the water, in consequence of which there gradually resulted a stinting or shrinking of the hind-foot and a change of the fore-feet into paddles, and thus it became cetaceous. Quite similar is the case of animals which, not only in Hæckel's imagination, but really, have settled with their progeny in dark caverns, whose eyes are generally still present, but with a skin grown over them, the so-called Anophthalmians. The existence of the eyes is here not purposeless in itself, but has first become purposeless through the conditions chosen by those animals; but the originating of a skin to protect the sensitive organ in the darkness is indeed purposeful.

The wings of the ostrich should, according to Hæckel (pp. 189 f. and 232), be purposeless, and should have become so small for this reason, that part of the ostriches ceased to exercise their powers of flight, and that (in contradiction to his statement elsewhere made, that individuals endowed with organs of flight always outlive the others) the flying portion of the ostrich tribe became extinct and only those not flying survived. Now it is really impossible to see how a bird should come to abandon its habit of flying; at least the charge of "Dysteleology" would be brought against its own wilfulness and not against nature. But, in conclusion, it is not really true that the wings of the ostrich, because small, are purposeless. Without having them to switch the air, it could not retain in equilibrium its heavy trunk on its long legs under such speed of flight. When now Hæckel continues: "If objectors consider the extreme importance of these facts,¹ they must be brought thereby to despair," he proves himself an excellent comedian, who understands how, by exposure of his own weakness, to arouse the risibility of his opponents.

Let us now briefly state the result. If those rudimentary

¹ Facts! Hæckel, at p. 460, himself doubts whether ostriches had abandoned the custom of flying, and whether their wings were not rather (as Huxley thinks) rudimentary organs, and that the ostriches are derived from the Saurian species! With him everything is possible. At p. 443, he sees in the swimming bladders of fishes rudimentary organs.

organs are represented as really the opposite of rudimentary, as deteriorated and imperfect, the reproach of purposelessness is thereby removed from nature (that is, from the author thereof), and laid upon the wilfulness of the individual animal. For it has been admitted that those organs in themselves and originally were not purposeless, but became deteriorated and purposeless only through wilful non-use on the part of their possessors. But one may object that this took place not from the wilfulness of those animals, but from a natural impulse dominating their will; but in that case one assumes a determining cause which has planned the continued development of the animal kingdom, and thus posits just that purposeful working and managing, directed to the attainment of an end, which he had wished to deny; and thus is one obliged to recognise the evidence of design in those organs which are transcended, and on a higher stage of development are no longer put into use.

We on our part, partly for the reasons already adduced, partly for those yet to be set forth in the third section, cannot agree with this theory of descent and arrest, and can therefore make no use of this means of defending teleology. We regard these organs (with the exception of a few, for example, the eyes of the anophthalmians) as rudimentary, that is, as tending toward higher forms, which first reach development in other species, and hence in regard to those species in which they are found in a merely rudimentary state remain, in fact, practically purposeless, that is, for the individual serve no practical purpose. But in the plant and animal world, not the individual but the species is the ultimate end (§ 77), and both kingdoms exist for the sake of the personal creature (§ 80). Therefore the designing author of nature in the organization of both those kingdoms not merely pursues practical ends for the life of the individual, but the systematic arrangement of the whole of nature is itself a greater end, and in it are embraced the rudimentary organs. In them the systematic conception of the creator expresses itself;

in them that designing intelligence of the self-conscious author makes itself known, which in the lower order of being has already the higher in view; it makes itself known before the personal creature and for it, as witness, that there is one wise will, who has created the great universe of nature. Nature is not merely a practically useful housekeeping, but also a work of art. Would one draw the conclusion in regard to a human work of art, for example, a Gothic cathedral, that because the pillars, but not the Phialé, the window bars but not the network,—or in a Greek temple, that because the pillars but not its chapiter-ornaments,—serve a practical purpose, such a building could not possibly have been contrived by a self-conscious, intelligent, designing architect? If, now, even a human artificer makes not only the practically necessary, but also repeats in the smallest detail what bears in it the fundamental idea of the whole, why should one then draw the conclusion, when he finds the same to be the case in nature, that here there is no self-conscious, designing author exercising his power?

§ 154. *The presumed Absence of Design in Nature.*

We have already, in § 76, seen how Häckel begins to prove the absence of design in nature. Instead of interrogating Nature herself as to what ends she aims at in her economy, and acknowledging that in the lower ranks of organic nature, in the plant and animal kingdoms, the preserving of species and kinds is the end which everything serves, he lays down with self-confident wilfulness the proposition, that the preserving of the individuals must be the end of the economy of nature. This is an end which, as was seen in § 76, thwarts itself in a ridiculous fashion, because it would condemn all individuals to starvation. And now, because nature does not correspond to this his papal dictum, he complains that there is in her no trace of design. In this connection it is worthy of remark that the death of animals occasions such anxiety to

him, while the annihilation of the human soul in death, which he maintains, and which, according to § 102, would really indicate the absence of design, is regarded as quite according to the nature of things.

Obs. 1.—As concerns the presence of design in the astronomical arrangements, it has long been proved by Kepler and Newton that the determination of the actually existing elliptical orbit of the planets is a most striking instance of design, since all aberrations in it are immediately again corrected by itself, while under every other arrangement the aberrations, owing to the approach of planets to one another, would be increased more and more, and would occasion confusion in the whole universe. Thus on astronomical grounds that is confirmed which we already stated in § 77, *Obs.*, that nature, so long as her present condition is not altered by a divine act of interference of a higher kind (§ 132 f.), is designedly contrived for the unchanged continuation of her own existence.

Obs. 2.—D. Fr. Strauss in *The Old Faith and the New*, § 67, goes so far in "the tumult of his contradiction" (as Huber calls it in the *Allg. Augsb. Ztg.* 1872, No. 322 ff.) as to declare the notion of design as such to be senseless: "It is this that has put the world standing on its head, which has made the last first, and taken the effect for the cause, and thus completely overturns the very idea of nature." But if the notion of design as such is impossible, then the positing of this idea of design on the part of men could never have taken place. That we as men do actually posit the idea of design is admitted by Strauss himself (p. 117)! Yea, even further, in nature too there is no getting along without the notion of design. "The world" (he says at p. 143) "is for us not only laid out by a supreme reason, but is founded upon the highest reason; for we must attribute to the cause what lies in the effect." "The design of the earth has been at every moment of its historical development attained unto" (p. 226). "Every part of the universe, which constitutes of itself a lesser whole, attains its end" (p. 227). "Nature has been sensible of herself in the animal, but she will also not acknowledge herself, if she cannot go farther she will return in upon herself;" thus "in man the power of organic forming on our planet reaches its highest point" (p. 224). "In men Nature has been urging forward—she has been aiming at transcending herself—as no other being has done, not merely for the sake of that which had been already given in early stages of life, but for the sake of that which has been obtained by her as something new" (p. 245). He does not seem indeed to observe that by this admission of a striving of nature after an end or design

presented as an idea (p. 112), he overthrows what he had said at p. 215, that in nature there is no finality, that rather the mere law of blind causality in Darwin's sense had gradually advanced accidentally to perfection. In this passage (pp. 215-219) he seeks to get rid of all teleology. If in the embryo the eye is formed for light, but not by its influence, one should not in that case, with Liebig, conclude that designing power has been operating, but "the individual finds itself here in the use of an instrument which its progenitors (he means animals) from primitive times have ever more and more perfectly adjusted for themselves. The eye of the embryo is formed in the maternal womb only of such creatures as have had their eyes during life exposed to the influence of the light." That is to say, children of blind or blind-born mothers come into the world without eyes! With all this babbling, Strauss has not solved the question, but only put it out of sight. If, with Darwin, he recurs to the law of heredity, he is under obligation to explain: (1) How it happens that, without the will of the individual mother, the development of the embryo is a repetition of the development of the species,—which is an organic law according to a plan, and giving evidence of design, by means of which "Nature not only strives onward, but seeks to transcend herself;" and (2) how the individual animal of the lowest sort still blind, which had present at the first an organ of vision, could have been able to adjust an eye for a use which it never yet once knew empirically, much less with consciousness? Nature knows, in fact, what she aims at, but D. Fr. Strauss knew not what he aimed at; otherwise he would not so awkwardly contradict himself, and would not at one and the same time have made for the lofty portals of Hegelianism and the low stable door of Darwinianism.

§ 155. *The Proof of Teleology and its Witnesses.*

The positive proof for the presence of design prevailing in nature is already given in § 73-77. Wigand has set forth the demonstration in detail with great subtlety, showing that Darwin, by his hypothesis of a simply causal development of the kingdom of nature, is obliged notwithstanding to presuppose at all points the designing control of a skilfully contrived law of development, and that he seeks only in general to thrust into the background this controlling principle of design, without being able to overthrow or set it

aside.¹ Moreover, although the idea of vitalism (according to § 147) is not to be identified with that of teleology, there lies nevertheless, already included in the open admission of the existence of a vital force, a proof of the presence of design in nature, inasmuch as there follows, at the same time, from that admission, this result, that every living monad builds up its organism according to a design. That without this principle of design in their construction, vital functions would be impossible, was never more clearly expressed or in a more classical manner, than by Cuvier, the father of Zoology: "Every living being forms a whole, a simple and complete system, in which all parts correspond mutually to one another, and by action and reaction contribute to the same final operation. None of these parts can change without changing the rest; and consequently each part taken separately determines and conditions all the others. If, for example, the entrails of an animal were so organized as to be able to digest only flesh, and indeed only fresh flesh, then his jaws must have been made for eating fresh flesh, his claws for grasping and rending, his teeth for cutting up and parting his prey into small pieces, the whole system of his organs of locomotion for pursuing and overtaking, his sensory organs for the discovery of his prey at a distance. There must be in his brain the necessary instinct craftily to lie hid and watch for his victim. The jaw requires, in order that it may be able to seize, a particular form of the joint of the neck, a particular relation between the point of resistance and of power, and at the point of support a particular circumference of the temporal-muscle, and of the latter again a special breadth of the cavity which receives it, and a particular vaulting of the bow between the cheek and the temple under which it passes, and this bow must again have a particular strength, in order to support the masticatory muscle. In order that the animal may drag away its prey, there is needed power in that same muscle by means of which

¹ I refer to Wigan 1, i. 128 f. Anm., and 130, 259, and 338, ii. 32.

it raises the head. This demands a particular form of joint, where the muscles start from, and of the back part of the head, where they terminate. The teeth, in order to be able to cut up flesh in small pieces, must be sharp. Their roots must be firm in proportion to the strength of the bones which they are required to break; and this again has an influence on the development of the parts which contribute to the movements of the jaws. In order that the claws may be able to seize upon their prey, the animal needs a particular power of moving its toes, a certain power in its nails, whereby particular forms of all the members of the foot or the distribution of muscles and tendons are determined. There must be a certain agility in the forearm in turning, which again requires that its bones be of a particular form; but the bones of the forearm cannot change their form without also necessitating modification in the upper part of the arm. These are the general characteristics which are found in all flesh-eating animals. Besides these there are various special characteristics that appear according to the size, kind, and surroundings of the prey upon which the animal lives, and from each of such special characteristics proceed modifications of the forms provided according to the general characteristics, so that not merely the class, but also the order, species, and kind of each particular animal is thus made known. The form of the tooth brings with it that of the condylus, the form of the shoulder-blade that of the claws, just as the equation of a curve brings with it all the properties thereof; and just as one, if he should take every property thereof in itself for the foundation of a separate equation, would find again the first equation, as well as all other properties, even so should one, if one of the members of an animal be given at the beginning, be able by means of a thorough knowledge of the economy of life to represent the whole animal. One sees in this way that animals with hoofs must be all plant-eaters (herbivorous), that since they use their fore-feet only for the support of

the body, they do not need to have their shoulders so powerfully constructed, as is seen to be the case from the want of the collar-bone and the acromium, and the smallness of the shoulder-blade. Since, too, they do not need the power of revolving their forearm, the shaft (*radius*) in them either grows together with the *ulna*, or is connected to the upper part of the arm though a ginglymus instead of through the arthroid. The vegetable-feeding demands teeth with a flat top, in order to bruise seed and grain; their points will be heterogeneous, and enamel must alternate with bony substance. And thus with this sort of points for masticating plants, there is necessary also a horizontal friction, so here the condylus of the jaw will afford no such protuberance as in the flesh-eating animals, but be flattened, and present a more or less flat surface for the temporal bone, and the temporal cavity, which has only to receive a small muscle, will be of small width and depth." We need no special skill in order to say that it is not a pious wish which Cuvier here expresses, but that he lays down in the form of postulates that which he has actually found out by observation, in order to present to view the inner necessity, the presence of the principle of design in actual nature. It was, indeed, just this principle of design determining the whole realm of nature in all its parts, which enabled this truly great and genial man of science, by means of fossil bones to draw from one or a few remnants of bones the most perfect continuity conclusions as to the character of the other lost parts of those extinct species, and to reconstruct the whole anatomical framework of the animal. The possibility of a carnivorous animal voluntarily accustoming itself to the use of vegetable food and *vice versa*, or a land animal accustoming itself to a life in the sea, and such like, and the possibility of the organism accommodating itself gradually to the new mode of life, are finally excluded by Cuvier's investigations. The animal needs its food daily; but these accommodations, which must consist in a complete alteration of every separate

organ, would demand a very long time in order to be brought about, and in the meantime a continuation of the functions of life would be impossible. The attempt at such a change of habits would be quite equivalent to the extinction of the animal. This consideration leads us directly to the theory of those, who nevertheless explicitly maintain the possibility of such changes.

Obs. 1.—It is amusing to observe how Darwin and Häckel themselves fall every moment into that heresy of teleology which in their syllabus they so utterly condemn. According to Häckel (p. 285), "the monads existing by primary generation" (the correctness of this theory has yet to be discussed farther on in § 169) "formed before all things a condensation of an outer layer, which as a protecting shell defended the soft inward matter from the outer world." Protect, protection! Surely this is a principle of design. One is on guard against future possible dangers, and if the *chimæra monera Hæckelii* were so cunning and provident as to produce for itself a protection against the outer world, it has acted admirably on the principle of design. Darwin refers often in his *Descent of Man* to the power of disguising themselves that belongs to many animals, which is no power at all, but an attribute or characteristic, unless it operates in accordance with a design which it sets before it. "The luminosity of the sea-blubber, Medusæ, and other deep-sea molluscs, even fishes, favours the idea that these animals attract the attention of sea-birds." "The butterfly, Kallima, in Sumatra, so soon as it lets itself down with folded wings, cannot be distinguished from a faded leaf. The upper surface of the wings of the English Aurora butterfly is exactly like the parsley upon which it is wont to sit." On the other hand, beautifully coloured butterflies, by means of their colours, are pointed out to plant-eating birds as inedible, and only such butterflies have such beautiful colours as are not palatable for flesh-eating birds. Thus does Darwin himself drag forth evidences on behalf of teleology. Häckel, too, confesses the presence of design in nature generally; for a consideration of the superb syllogism by means of which he endeavours to overcome the force of this fact, see § 76, *Obs.*

Obs. 2.—Burdach demonstrates in a striking manner (*Blicke in's Leben*, i. p. 21 f.) that all organic forming is a forming for the future, and that it falls, not under the category of mere causality, but under that of the principle of design. "In the order of insects," he writes, "the digestive organs are already present, even while as yet there is no need of them, since

nourishing is effected by an imbibing process that goes on over the entire surface. In like manner the organs of sense and motion are present, of which in the egg no use can as yet be made. The larva of the insect digests more than in its present state it actually requires; for it must gather a store of forming matter for the future pupa state; but this again makes preparation for the life of the perfect insect, which by propagation calls new generations into being. And so is it generally in living organisms,—that which constitutes the forming energy has reference to the future. In the female body the form of the separate organs, the chemical and mechanical characteristics of the whole substance, the proportions of all vital functions, are just such as they must be in order, with the uninjured continuance of its own being, to make the development of the fruit possible. When the function of the receptacle of the foetus has ended, the lacteal glands begin theirs, in preparing nourishment for the newly born. Thus the female organism has with its first embryonic product been prepared to be parent, bearer, and protector of a new life, and all its characteristic properties have been determined by an end lying still in the distant future.”

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